

A

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

In the Matter)	
)	
GTE CORP.)	
)	
Transferor,)	
)	
and)	CC Docket No. 98-184
)	
BELL ATLANTIC CORP.)	
)	
Transferee,)	
)	
For Consent to Transfer of Control)	

**AFFIDAVIT OF JOHN W. MAYO AND DAVID L. KASERMAN
ON BEHALF OF AT&T CORP.**

I. QUALIFICATIONS AND PURPOSE OF TESTIMONY

1. My name is David L. Kaserman. My business address is the Department of Economics, College of Business, 415 West Magnolia -- Room 203, Auburn University, Auburn, Alabama, 36849-5242. I am an economist. My current position is Torchmark Professor of Economics at Auburn University. I hold a Ph.D. degree in Economics from the University of Florida. My principal field of interest is industrial organization, which encompasses the areas of antitrust economics and the economics of regulation. I have over twenty years of

CC DOCKET NO. 98-184
AFFIDAVIT OF MAYO AND KASERMAN

experience as a professional economist and have held positions both in government agencies (e.g., the U.S. Federal Trade Commission) and in academic institutions. In addition, I have consulted on and testified in numerous antitrust cases and regulatory hearings. My primary research interest is in the application of microeconomic analysis to public policy issues, and that interest is reflected in my research and publications.

2. Over the past fourteen years, I have focused much of my research on public policy issues surrounding the telecommunications industry, particularly those issues created by the emergence of competition in the long distance market and the efforts to inject competition in other, currently closed markets. That research has resulted in the publication of more than a dozen papers on this subject, with several more papers currently in progress. I have also published a textbook, co-authored with Professor John W. Mayo at Georgetown University, dealing with the economics of antitrust and regulation. In addition, over this same period, I have testified on telecommunications policy issues on numerous occasions in more than fifteen states and before the Federal Communications Commission (Commission). A copy of my most recent vita is attached as Exhibit 1
3. My name is John W. Mayo. My business address is Georgetown University, McDonough School of Business, 37th and O Streets, N.W. 20057. I am currently a Professor of Economics, Business and Public Policy in the McDonough School

CC DOCKET NO. 98-184
AFFIDAVIT OF MAYO AND KASERMAN

of Business, Georgetown University. I hold a Ph.D. in economics from Washington University, St. Louis, with a principal field of concentration in industrial organization, which includes the analysis of antitrust and regulation. I have taught economics, business and public policy courses at Georgetown, the University of Tennessee, Virginia Polytechnic Institute, and Washington University. Also, I have served as the Chief Economist, Democratic Staff of the U.S. Senate Small Business Committee. Both my research and teaching have centered on the relationship of government and business, with particular emphasis on regulated industries.

4. I have authored numerous articles and research monographs, including the aforementioned textbook that I co-authored with Professor Kaserman on the economics and law of antitrust and regulation. I have also written a number of specialized articles on economic issues in the telecommunications industry. These articles include discussions of competition and pricing in the telecommunications industry and have appeared in academic journals such as the RAND Journal of Economics, the Journal of Law and Economics, the Journal of Regulatory Economics, and the Yale Journal on Regulation. I have also previously provided testimony before Congress, the Commission and numerous state public utility commissions on matters involving telecommunications policy. A more detailed accounting of my education, publications and employment history is contained in Exhibit 2.

CC DOCKET NO. 98-184
AFFIDAVIT OF MAYO AND KASERMAN

5. We have been asked by AT&T to evaluate the merits of the proposed merger between Bell Atlantic Corporation (Bell Atlantic) and GTE Corporation (GTE). For a variety of reasons described below, we find that this merger raises significant competitive concerns. Principal among these are, first, that the merger is likely to increase the extant monopoly power enjoyed by Bell Atlantic and GTE and the incentives for both companies to engage in actions to delay the emergence of effective competition in the provision of local exchange services. Second, the merger eliminates a significant potential entrant into both BA and GTE territories (as well as the territories of other incumbent local exchange carriers (ILECs)). The demise of this prospective source of competition is especially critical given the highly concentrated nature of local exchange telephony and the critical importance of competition for the future performance of the telecommunications industry. Third, the merger is distinctly counter to the pro-competitive, deregulatory goals of the Telecommunications Act of 1996 (Act or 1996 Act). The merger both heightens the need for additional regulatory oversight and simultaneously erodes the effectiveness of such regulation. The consequences of this merger, then, will be less competition and more (but less effective) regulation.
6. Anticompetitive consequences of this merger do not rest solely (or even primarily) upon the theory of potential competition.¹ Bell Atlantic and GTE argue

¹ This is not to say that the theory is irrelevant to this case. Indeed, the relevance of these ILECs' standing as potential competitors for each others' customers is discussed below in Section IV.

CC DOCKET NO. 98-184
AFFIDAVIT OF MAYO AND KASERMAN

that this merger does not raise competitive concerns because there is a "developing national market" for a "bundled product" offering and that the combined company will be only one of several firms competing in this market. This argument, however, fails to recognize that the pace at which competition grows in this emerging market is critically dependent upon the behavior of the ILECs in providing essential inputs to new entrants on non-discriminatory terms (including both price and quality). Importantly, that behavior is affected adversely by combinations, such as this one, that enhance the incentive and ability of these firms to adopt exclusionary practices that inhibit entry. Thus, the speculative market conditions that these companies use to justify the merger are themselves made less likely to materialize if this acquisition is consummated.

7. Thus, the primary harm inflicted upon competition (and, therefore consumers) by the proposed union of Bell Atlantic and GTE is not just the loss of the most likely and significant potential entrant. Rather, the merger also raises the barriers to entry into both companies' local exchange markets by increasing the incentive and ability to engage in exclusionary conduct through sabotage of competition-enabling activities required of ILECs under the 1996 Act. Thus, this merger displays serious anticompetitive consequences that are not dependent upon the theory of potential competition. That theory merely serves to exacerbate the other, more direct, anticompetitive effects that, on their own, should serve to condemn the proposed merger.

CC DOCKET NO. 98-184
AFFIDAVIT OF MAYO AND KASERMAN

II. THE MERGER APPLICATION IN PERSPECTIVE

8. To evaluate the competitive impact of the proposed merger of Bell Atlantic and GTE, it is important to understand both the lineage and current status of industry structure in the provision of telephony in the United States. After a period of open rivalry in the first part of the twentieth century, telephone service in the United States evolved into one of monopoly supply.² While affording stability and continuity, monopoly supply with pervasive regulation exacted a heavy toll on consumer welfare. It is widely conceded that, by denying entry and the proliferation of multiple carriers for individual customers, public policy inadvertently caused a number of maladies including retarded rates of innovation, reduced allocative efficiencies, suppressed consumer choice and widespread cross-subsidization.
9. Beginning with MCI's entry into the long distance marketplace, various cracks began to develop in the monopoly provision of telephony. The divestiture of the Bell System and the establishment of a number of pro-competitive regulatory policies (such as equal access presubscription) opened the long distance (interLATA) market to effective competition and resulted in a host of consumer benefits. The long distance industry, once characterized by a single dominant

² For discussions of the early period of rivalry in telecommunications and the competitive problems that ensued, see David Weiman and Richard Levin, "Preying for Monopoly: The Case of Southern Bell, 1894-1912," Journal of Political Economy, Vol. 102, February 1994, pp. 103-126; David Gabel, "Competition in a Network Industry: The Telephone Industry, 1894-1910," Journal of Economic History, Vol. 54, September 1994, pp.543-572.

CC DOCKET NO. 98-184
AFFIDAVIT OF MAYO AND KASERMAN

provider of high-priced telephone services, has evolved dramatically over the past fourteen years and is now subject to effective competition.³

10. The public policy evolution toward a full embrace of competition as the primary allocator of telephony resources received a major boost with the passage of the Telecommunications Act of 1996. This Act contains a number of specific pro-competitive features and requirements designed to introduce competition into all aspects of telephone service, including, most notably, local exchange service. For example, Section 253 calls for the removal of barriers to entry and Section 257 requires that as a matter of national policy, the Commission "seek to promote the policies and purposes of this Act favoring . . . vigorous competition." Other sections of the Act require ILECs to unbundle their network elements and make these available to new entrants on nondiscriminatory terms. The purpose of these requirements is to relieve these new entrants of the overwhelmingly daunting task of replicating entire local exchange networks to be able to provide local exchange telephone services and, thereby, accelerate the pace at which competition develops.

³ See, e.g., David L. Kaserman and John W. Mayo "Competition and Asymmetric Regulation in Long-Distance Telecommunications: An Assessment of the Evidence," CommLaw Conspectus, Vol. 4, Winter 1996, pp. 1-26.

CC DOCKET NO. 98-184
AFFIDAVIT OF MAYO AND KASERMAN

11. As a consequence of the Act, it is clear that policymakers are charged with the task of affirmatively promoting competition in the provision of local exchange telephone service. As noted by the Commission:

The Telecommunications Act makes it clear that the public interest requires that the public interest standard embody a policy structure designed to promote both competition and deregulation. Indeed, the Act is quite explicit in its statement that the aims of the Act include the establishment of a "pro-competitive, deregulatory national policy framework designed to . . . open [] all telecommunications markets to competition."⁴

Importantly, this standard requires that, in order to approve this merger, the Commission must find that it affirmatively enhances competition.⁵

12. Thus, while traditional regulatory policy has been centered around the notion of protection from monopoly, the new regulatory paradigm must be centered around the concept of promotion of competition.⁶ That is, traditional regulatory policy has acted to protect incumbent utilities from competition and, in turn, protect consumers from the resulting monopoly provider. Under this new regulatory paradigm, however, the policy goal is substantially redirected to one of enabling competition. Enabling competition, in turn, involves the dual tasks of: (1) promoting competition wherever possible; and, (2) protecting the competitive process as it emerges in markets that have historically been

⁴ Memorandum Opinion and Order, In the Application of NYNEX Corporation and Bell Atlantic Corporation for Consent to Transfer Control of NYNEX and its Subsidiaries, Adopted August 14, 1997, ¶ 31 ("BA-NYNEX Merger Order").

⁵ Id. ¶ 2.

⁶ We note with full concurrence the standard caveat that policymakers should not seek to promote competition by protecting competitors.

CC DOCKET NO. 98-184
AFFIDAVIT OF MAYO AND KASERMAN

characterized by monopoly supply. In short, the 1996 Act seeks to fully enable the competitive provision of all telecommunications services.

13. In the almost three years of post-Act implementation efforts, a number of pro-competitive policy measures designed to open and accelerate the onset of competition have been pursued. Nonetheless, it is generally conceded at this point that local exchange markets are proving considerably more difficult to open than many observers had anticipated. The result is that nearly three full years after the passage of the 1996 Act, nearly all local access lines in the United States remain under the direct control of incumbent local exchange carriers.⁷ Moreover, as noted by the Commission, a number of significant barriers to entry into the local exchange market remain firmly in place.⁸ Finally, and of particular importance to the proposed merger of Bell Atlantic and GTE, the entry process has been further deterred by the entrenched and potentially growing incentive and ability of ILECs to engage in strategic measures designed to foreclose the entry of new competitors.

14. Against this backdrop of a public policy thrust designed to enable competition, a merger between two of the largest monopoly providers of telecommunications services in the United States is inherently suspect. This suspicion is

⁷ This high level of concentration is consistent with the data provided by Bell Atlantic and GTE in their Application. Public Interest Statement at 29-30. Viewed conservatively, these data show that Bell Atlantic controls 96 and 98 percent of switched access lines in Pennsylvania and Virginia respectively.

⁸ BA-NYNEX Merger Order ¶ 61.

CC DOCKET NO. 98-184
AFFIDAVIT OF MAYO AND KASERMAN

accentuated by what many consider to be the failure to this point to see the widespread emergence of competition in the provision of local exchange services in the United States. Is the proposed merger likely to accelerate or frustrate the onset of local exchange telephone competition? It is to that question that we now turn.

III. THE MERGER PARTICIPANTS AND MARKET ENVIRONMENT

15. Bell Atlantic is an exceptionally large provider of telephony with roughly forty million domestic access lines.⁹ Bell Atlantic is positioned with control over what the company itself refers to as “the most valuable assets in the communications industry: high-quality ‘first-mile’ connections to customers.”¹⁰ Bell Atlantic provides local exchange services, local exchange access services, intraLATA long distance services and wireless telephony services.

16. GTE is “one of the world’s largest telecommunications companies” that controls over 27 million access lines.¹¹ GTE provides local exchange, local exchange access, long distance (both intra and interLATA) and wireless communications. GTE has established a strategy to “create a national presence” and “compete in key national markets.”¹² Moreover, prior to its proposed merger with Bell

⁹ Bell Atlantic 1997 Annual Report, p. 2.

¹⁰ Id., p. 4.

¹¹ GTE 1997 Annual Report, p. 1.

¹² Id., p. 2.

CC DOCKET NO. 98-184
AFFIDAVIT OF MAYO AND KASERMAN

Atlantic, the company launched "a competitive local-exchange carrier that will market the full spectrum of GTE services in key markets, without regard to franchise boundaries."¹³

17. The vast majority of services provided by Bell Atlantic and GTE exhibit monopoly or near monopoly conditions. While the intent of the Telecommunications Act was to alter this situation, the task is far more complicated than simply declaring that competitive rather than monopoly supply is desired. A particularly daunting aspect of introducing competition into local exchange markets is that, for the foreseeable future, new firms will be dependent upon the cooperation of the ILECs to provide access to their essential network facilities so that the new firms can provide retail-level service. This dependency together with virtual monopoly supply of local exchange access creates myriad opportunities for ILECs to engage in actions designed to exclude efficient entry and delay the growth of competition in the provision of local exchange services.
18. Specifically, local exchange companies have monopoly control over the essential facilities necessary to provide local telephone services. In this situation, a pure unregulated provider could raise prices of these monopoly elements to extract monopoly profits. The fact that regulation serves to limit the ILECs' monopoly rent taking by limiting prices, however, also inadvertently

¹³ Id.

CC DOCKET NO. 98-184
AFFIDAVIT OF MAYO AND KASERMAN

provides the incentive for these companies to pursue those rents in related markets such as the long distance market. Moreover, regardless of regulation, ILECs also have the incentive to defend their extant monopoly power by a variety of exclusionary practices, including but not limited to vertical price squeezes, bundling or tying, price discrimination, and, nonprice (quality) discrimination.

IV. COMPETITIVE CONSEQUENCES OF THE PROPOSED MERGER

19. Economic analyses of proposed mergers for antitrust purposes typically follow a fairly standard (and, we believe, generally sound) approach. Under this approach, post-merger industry concentration, the magnitude of the change in concentration brought about by the proposed merger, barriers to entry, and other relevant factors are all weighed within a consistent and analytically valid framework. That basic framework is reflected in the most recent DOJ/FTC Horizontal Merger Guidelines. In addition, the Department of Justice 1984 Vertical Merger Guidelines provides additional factors relevant to an analysis of horizontal effects that may emanate from non-horizontal mergers. Our analysis of the likely economic consequences of the proposed Bell Atlantic/GTE merger follows, in large measure, these prior merger policy statements.

20. Market Definition. As these Guidelines explain, the first step in any merger analysis must involve market definition. Specifically, the relevant market or

CC DOCKET NO. 98-184
AFFIDAVIT OF MAYO AND KASERMAN

markets likely to be affected by the proposed acquisition must be delineated across both the product and geographic dimensions.¹⁴ The purpose here is to identify the relevant products and geographic areas within which the two firms either currently compete or, absent the merger, are likely soon to begin competing.

21. With regard to the proposed Bell Atlantic/GTE merger, it is relatively straightforward to specify several product markets within which the two firms can (and, to a limited extent, already do) compete. Specifically, local exchange services, local exchange access, and long distance services (including both intraLATA toll and interLATA offerings) represent currently identifiable relevant product markets. Additionally, it is widely believed that a distinct demand is likely to emerge in the near future for a bundled service offering that includes both local exchange and long distance services. (In fact, Bell Atlantic and GTE argue that the emergence of the bundled services product market is one of the reasons that they need to merge). Therefore, these four service offerings -- local exchange services, local exchange access, long distance, and bundled services -- constitute the relevant product markets for purposes of this evaluation.¹⁵

¹⁴ For a discussion of market definition, see David L. Kaserman and John W. Mayo, Government and Business: The Economics of Antitrust and Regulation, The Dryden Press, Fort Worth, Texas, 1995, pp. 111-116.

¹⁵ The Commission has recognized that bundled services are emerging as a relevant product market. See, e.g., BA-NYNEX Merger Order ¶ 52. Moreover, while our analysis focuses on voice telecommunications services, we recognize that Internet backbone services have been separately identified by the Commission. See Memorandum Opinion and Order, Application of WorldCom, Inc. and MCI Communications Corp. to Transfer Control of MCI Communications Corp. to WorldCom, Inc.,

CC DOCKET NO. 98-184
AFFIDAVIT OF MAYO AND KASERMAN

22. Next, with regard to the geographic dimension of the market, the market definition must account for the rather unique feature of telecommunications demand. More precisely, that demand tends to point toward a host of point-to-point markets for telecommunications services. Each household may be seen to have a demand for point-to-point calling that is, from a demand-side perspective, not substitutable for calling between any other two points. Thus, a call from Bethesda, Maryland to Baltimore, Maryland is not substitutable for a call from Bethesda to Columbia, Maryland. Traditionally, however, the households within a local exchange company's service territory face a common set of telecommunications services and providers. In this case, as the Commission has noted, it is possible to identify a somewhat more aggregate-level geographic market to encompass the area within which households face similar choices.¹⁶ Under this criterion, two relevant geographic markets may be identified which correspond to the two ILECs' franchised territories. Given this relatively narrow market definition, then, the merging firms generally may be viewed as operating in separate geographic markets. Consequently, under this view, the merger is not a direct horizontal acquisition. But, as explained below, the merger nonetheless has a significant competitive impact through channels other than industry concentration.¹⁷

Adopted Sept. 19, 1998, ¶ 22.

¹⁶ Id. ¶ 51.

¹⁷ Of course, adjacent ILECs may have already entered one another's territories in which case they would be actual competitors. In fact, we understand that there has been such actual competition in Virginia by Bell Atlantic and GTE. In assessing the competitive impact of the merger using the more narrow geographic market definition, we conservatively assume that no such entry has occurred and that Bell Atlantic and GTE are not actual competitors. Relaxation of this assumption would only strengthen our conclusion that the merger would retard competition.

CC DOCKET NO. 98-184
AFFIDAVIT OF MAYO AND KASERMAN

23. Despite the fact that the Commission has used this analysis in the other ILEC mergers it has considered, Bell Atlantic and GTE maintain that there is a "developing national market" for telecommunications services. Public Interest Statement at 9-15 (emphasis added). But even assuming arguendo that this is true, it would mean that Bell Atlantic and GTE are actual competitors and the merger has a direct horizontal impact on industry concentration. For purposes of analysis, then, we analyze the competitive consequences of the proposed merger between Bell Atlantic and GTE under both of these alternative geographic market definitions.
24. The Impact of the Proposed Merger on Monopoly Power, Exclusionary Conduct, and Barriers to Entry. Regardless of which geographic market is selected, the proposed merger raises a number of troubling concerns regarding the development of competition in local exchange and local exchange access markets. Specifically, if consummated, the merger will enhance the combined firm's control over price (monopoly power) and increase both the ability and incentives for the combined company to engage in exclusionary conduct designed to undermine the emergence of competition in the very markets where it is most needed. Additionally, the merger would detract from the growth in competition that would otherwise occur by elimination of an important potential competitor for Bell Atlantic and GTE customers. Finally, under the mandate of the 1996 Act to create a "de-regulatory national policy framework," the merger

CC DOCKET NO. 98-184
AFFIDAVIT OF MAYO AND KASERMAN

perversely and simultaneously acts to both (1) heighten the need for more regulatory oversight, and (2) reduce the ability of regulators to identify, monitor and enforce competitive behavior. We now turn to a more detailed discussion of these concerns.

25. One of the most vexing aspects of introducing competition into local exchange telephony in the United States stems from the ILECs' control of essential local facilities. This control, together with ILECs' vertical integration into other telecommunications services that are, or could be, provided by competitors create incentives for the ILECs to use this control to exclude rivals.¹⁸ This exclusion may be accomplished by engaging in price-based exclusionary tactics (e.g., vertical price squeezes) or non-price strategies such as denying, delaying, or degrading access to its network. Unfortunately, the proposed merger of Bell Atlantic and GTE will exacerbate both the incentives and ability to carry out such exclusionary practices.

26. For example, consider the fact that competitors of ILECs that purchase local exchange access are typically made to pay access charges that are well in excess of the incremental cost of providing that service. Assuming Bell Atlantic were permitted to enter the long distance market before its access charges were

¹⁸ For a discussion of the incentive for firms with the market characteristics presently enjoyed by the ILECs to engage in actions designed to sabotage entry, see T. Randolph Beard, David L. Kaserman and John W. Mayo "Regulation, Vertical Integration and Sabotage," working paper, September 1998.

CC DOCKET NO. 98-184
AFFIDAVIT OF MAYO AND KASERMAN

reduced to cost, a call placed between a Bell Atlantic exchange and a GTE exchange via an interexchange carrier (IXC) would result in originating access charges (in excess of the incremental cost of providing this access) paid to Bell Atlantic and terminating access charges (also in excess of costs) paid to GTE. Suppose for illustration purposes that the incremental cost of either originating or terminating access is \$.01 per minute while the price of originating access is \$.03 and the price of terminating access is \$.02 per minute.

27. For a call carried by the IXC, the "cost" it faces, \$.05 per minute, includes the price charged for originating access (\$.03) and terminating access (\$.02). Consider the same call carried (pre-merger) by Bell Atlantic. Bell Atlantic avoids the originating access charge and instead incurs an incremental cost of \$.01. If Bell Atlantic carries the call to a customer presently residing in GTE's service territory, however, then Bell Atlantic must (again, pre-merger) pay the same terminating access charges as would be the case if an IXC were the carrier. Thus, pre-merger, Bell Atlantic can be seen to enjoy a "cost" advantage of \$.02 [\$.03 - \$.01] relative to its IXC rivals. This "cost" advantage is, of course, purely a function of the inflated access charges imposed for providing local exchange access. Nonetheless, it provides Bell Atlantic with control over the price (monopoly power) charged for retail-level calls. Specifically, absent regulatory

CC DOCKET NO. 98-184
AFFIDAVIT OF MAYO AND KASERMAN

intervention into retail markets, it permits Bell Atlantic to raise prices above cost while still displacing sales by a potentially more efficient rival.¹⁹

28. Following the merger, Bell Atlantic's ownership of GTE's local exchange access facilities increases this control over price. That is, by controlling both the originating and the terminating ends of the call, Bell Atlantic will incur only the incremental cost of originating and terminating calls between these formerly independent customer groups -- \$.02 per minute. In contrast, an IXC providing the same call will face charges of \$.05 (\$.03 for originating access and \$.02 for terminating access). Thus, the control over retail-level pricing enjoyed by the post-merger Bell Atlantic will have grown from \$.02 (the pre-merger advantage enjoyed by Bell Atlantic) to \$.03 (the post-merger advantage enjoyed by Bell Atlantic). The consequence of the merger, then, is seen to include an increase in the degree of pricing control (monopoly power) enjoyed by Bell Atlantic.
29. Yet another problem created by the merger springs directly from the monopoly control by Bell Atlantic and GTE of access lines. In a typical competitive market, the entry process is readily seen to reduce the ability of incumbent firms to control price. In the instant situation, however, the merger of Bell Atlantic and

¹⁹ While it has been suggested that imputation of the supra-competitive access charges into the ILEC's retail prices will "solve" this problem, this solution suffers from a number of problems. For example, imputation methods, which are highly contentious, must be developed, implemented and enforced. Despite earnest efforts to make such imputation standards binding, Bell Atlantic has been able to successfully evade previous attempts to impose just such a regulatory "fix" to this problem. E.g., Order No. 71668, Maryland Public Service Commission, Dec. 28, 1994. More generally, the imposition of such regulatory band-aides is distinctly counter to the pro-deregulatory goals of the Act.

CC DOCKET NO. 98-184
AFFIDAVIT OF MAYO AND KASERMAN

GTE will act to dampen the otherwise salubrious effects of the market entry process. Specifically, the merger will insulate the combined companies' control over price, which, but for the merger would be eroded (perhaps substantially) by any observed entry of facilities-based competitive local exchange carriers (CLECs).

30. Consider, for example, the access charge pattern described earlier: \$.01 being the incremental cost of either originating or terminating access, \$.03 being the price of originating access, and \$.02 being the price of terminating access. Recall that, in this situation, Bell Atlantic enjoys a \$.02 "cost" differential relative to IXCs on calls originating in Bell Atlantic's territory and terminating in GTE's service territory. In the absence of the proposed merger, if an IXC were to enter the Bell Atlantic territory and provide local exchange access services on a sufficient scale and with the same efficiency as Bell Atlantic (\$.01), then Bell Atlantic's control over price (its advantage due to excessive pricing on originating access) erodes. That is, entry will have the effect of eliminating the "cost" differential and therefore Bell Atlantic's' monopoly power in the provision of retail services that depend on local exchange access services. If, however, the proposed merger is consummated, then for calls placed between the Bell Atlantic and GTE territories, Bell Atlantic-GTE will still continue to enjoy a "cost" advantage relative to its IXC rivals, because it can now impose terminating access charges on IXCs that it does not, itself face. The point is that, absent the

CC DOCKET NO. 98-184
AFFIDAVIT OF MAYO AND KASERMAN

merger, entry would erode the monopoly power enjoyed by Bell Atlantic; but, if the merger is consummated, then this same entry will be less effective in reducing Bell Atlantic's control over price.

31. Finally, and perhaps most fundamentally for present purposes, the merger would enhance incentives for the combined firm to engage in non-price exclusionary conduct in order to protect its local monopoly from competition. To see this, note that the success of widespread entry is critically dependent upon the quality with which these new entrants are able to provide local exchange services in competition with ILECs. Because access to incumbent local exchange facilities will remain a critical input that CLECs need to purchase from ILECs, however, the success of the entry process will depend in a very critical way upon the timely provision of high quality, nondiscriminatory interconnection by Bell Atlantic and GTE to prospective retail-stage rivals. While neither Bell Atlantic nor GTE has been particularly forthcoming in its provision of such high quality interconnection services to this point,²⁰ the merger will further erode any incentives for the post-merger Bell Atlantic to cooperate with new entrants.

32. Specifically, entry by CLECs is envisioned to occur across wide geographic areas "without regard to franchise boundaries." If, however, Bell Atlantic engages in actions that delay, deny, or degrade the quality of access to the new entrant prior

²⁰ See, e.g., Joint Supplemental Reply Affidavit of Richard E. Fish, Jr. and S. Jeanine Guidry on behalf of AT&T, Case 97-C-0271, State of New York Public Service Commission, Oct. 27, 1998.

CC DOCKET NO. 98-184
AFFIDAVIT OF MAYO AND KASERMAN

to the merger, the result is that the reputation of the new entrant is harmed not only in the specific geographic location where the anticompetitive sabotage is undertaken but also in other geographic areas where the new entrant competes or is contemplating entry.²¹ That is, if, say, Bell Atlantic engages in an action that harms the reputation of a CLEC in area A, the company-wide reputation of the CLEC is harmed and this will make entry into other geographic locations correspondingly more difficult.

33. Moreover, the anticompetitive effects of delaying, denying, or degrading access are not limited to harm inflicted on the rivals' reputation for providing local exchange service. If, as anticipated, consumers are anxious to purchase bundled telecommunications offerings, then damage inflicted on new entrants through the discriminatory provision of local exchange access will spill over to affect the ability of new entrants to profitably provide bundled service offerings.
34. Prior to the merger, any such anticompetitive actions undertaken by either Bell Atlantic or GTE are privately beneficial to them. However, prior to the merger, the full (private, but not public) benefit of such sabotage is not internalized, because Bell Atlantic cannot reap the benefits of its own entry deterring tactics that spill over to result in reduced entry into GTE's service territories. Similarly, prior to

²¹ This point is similar to remarks expressed by Sprint in the proposed SBC/Ameritech merger. See Declaration of Michael L. Katz and Steven C. Salop, "Using a Big Footprint to Step on Competition: Exclusionary Behavior and the SBC-Ameritech Merger," October 15, 1998.

CC DOCKET NO. 98-184
AFFIDAVIT OF MAYO AND KASERMAN

the merger, GTE is unable to capture fully the entry-detering benefits of anticompetitive actions it undertakes in its own service territory that spill over to cause reduced entry into Bell Atlantic's territory. Following the merger, however, Bell Atlantic will be able to more fully capture the benefits of actions it undertakes to delay, deny or degrade access. Such internalization of the profit-enhancing effects of sabotage of CLECs' entry, then, creates post-merger heightened incentives to engage in such exclusionary conduct. Consequently, it is quite likely that following the merger, the combined Bell Atlantic/GTE will take an even more aggressive posture toward the provision of local exchange access services that will have the effect of raising barriers to entry into the local exchange and bundled telecommunications markets.

35. The Impact of the Proposed Merger on Regulatory Oversight. The proposed merger involves firms that, due to their substantial monopoly power, are subject to direct controls by both state and federal regulatory agencies. As a result, it is feasible that adverse competitive consequences will derive from the merger's impact on the ability of regulators to detect and punish exclusionary conduct by the regulated firms. That is, given an enhanced incentive and ability for the merging companies to exercise their monopoly power through both price and non-price strategies, the need for regulatory oversight increases commensurately. If the merger simultaneously reduces regulators' ability to

CC DOCKET NO. 98-184
AFFIDAVIT OF MAYO AND KASERMAN

perform this oversight function, then anticompetitive conduct can be expected to escalate a fortiori.

36. Consideration of both the type of regulatory oversight required to promote and protect emerging competition in local exchange markets and the methods used to carry out such oversight strongly suggests that the proposed merger will adversely affect that important regulatory function. Specifically regulators have traditionally (and, with the advent of emerging competition, increasingly) utilized observations on the performance of all regulated firms to establish benchmarks against which to judge the behavior of individual companies under their jurisdiction.²² Questions involving the technical feasibility of alternative interconnection arrangements and the quality of ILEC-supplied inputs are particularly amenable to such benchmarking. And it is precisely such questions that are fundamental to enforcement of the 1996 Act's provisions and are already emerging as an integral part of its implementation.

37. Two adverse effects of the proposed merger related to the use of benchmarking can be identified. First and most obvious, by eliminating the sixth largest ILEC as an independent firm, the merger would reduce the already dwindling set of benchmark companies that regulators can employ to at least partially resolve the

²² The Declaration of Joseph Farrell and Bridger M. Mitchell, "Benchmarking and the Effects of ILEC Mergers," Oct. 15, 1998, filed on behalf of Sprint in the SBC/Ameritech merger case, provides a rich discussion of benchmarking and its role in regulatory enforcement efforts. The arguments we present here are drawn from that Declaration.

CC DOCKET NO. 98-184
AFFIDAVIT OF MAYO AND KASERMAN

informational asymmetry that confounds regulators' (and competitors') efforts to enforce non-discriminatory provision of essential inputs to the ILECs' nascent competitors. This loss has particular impact on new services and technologies where there are few established standards for judging ILEC conduct. In short, the loss of one more significant benchmark company means that the likelihood that regulators will be able to identify and confidently attack discriminatory treatment of both actual and potential competitors is reduced.

38. Second, as the number of benchmark companies falls, the likelihood that any one of the remaining firms will behave in a non-discriminatory fashion (and, thereby, set the benchmark standard) is reduced as well. The fewer the number of firms setting the benchmark, the more likely it is the firms can maintain a uniform standard and protect against "cheating" whereby a member breaks ranks in order to gain a competitive advantage or seek favor with regulators.

39. The overall result of both of these effects is to exacerbate the problem, discussed earlier, of the increased incentive and ability for the merged company to engage in such exclusionary conduct. That is, a merged Bell Atlantic/GTE will have a greater incentive and ability to sabotage entrants' attempts to compete; and, simultaneously, regulators will have a reduced ability to detect and prevent such behavior.

CC DOCKET NO. 98-184
AFFIDAVIT OF MAYO AND KASERMAN

40. The Impact of the Proposed Merger on Potential Competition. As noted earlier, a traditional view of the relevant geographic market suggests that the acquisition of GTE by Bell Atlantic is not strictly horizontal. Several anticompetitive concerns arise, nonetheless, in this context. To this point, we have discussed such merger-induced concerns that stem from increased monopoly power, heightened levels of exclusionary conduct, elevated barriers to entry, and diminished ability to detect and punish anticompetitive exclusionary behavior. Another important set of problems raised by the proposed merger of Bell Atlantic and GTE stem from the fact that the purchase eliminates the prospect that each company's assets will be used as a competitive force against the other's.
41. The competitive damage that results from the demise of GTE (Bell Atlantic) as a prospective entrant into Bell Atlantic's (GTE's) service territory depends on several factors: (1) whether GTE (Bell Atlantic) is a likely entrant into Bell Atlantic (GTE) territories and if so, then one must assess the damage done to the future of competition as a consequence of the elimination of both these companies' assets from the ranks of prospective competitors; (2) whether GTE (Bell Atlantic) is positioned favorably relative to other potential entrants, so that its assets might be brought to bear more quickly or with greater force than other prospective entrants; and (3) whether there is sufficient competitive pressure from within the Bell Atlantic (GTE) geographic market to insure that regardless of the

CC DOCKET NO. 98-184
AFFIDAVIT OF MAYO AND KASERMAN

elimination of GTE (Bell Atlantic), consumers are, nonetheless, assured competitive supply.²³

42. The factors all unambiguously compel the conclusion that the elimination of Bell Atlantic and GTE as competitors will harm social welfare in both territories. Assessment of the relevant product markets within each company's territory indicates that Bell Atlantic and GTE face precious little competition. Bell Atlantic and GTE each control the vast majority of access lines within their respective service territories and continue to enjoy barriers to entry into these markets. Accordingly, to the extent that the Act's drive to enhance competition in telecommunications markets is to be taken seriously, it must be acknowledged that such competition must, at least initially, come from firms that presently are only "potential competitors." In this context, an analysis of the geographic and product markets presently served by each company strongly suggests that, absent the merger, GTE is a very likely entrant into the service territory presently served by Bell Atlantic. Moreover, in those geographic areas where GTE provides service contiguous with or very near Bell Atlantic (e.g., Pennsylvania and Virginia), Bell Atlantic is favorably positioned to begin to compete for customers presently served by GTE.

²³ Also relevant to the public interest is whether, as alleged by the Bell Atlantic and GTE, ownership of GTE's assets by Bell Atlantic somehow enhances the prospect that, despite the elimination of GTE as a competitor for Bell Atlantic's customers, competition in other ILEC territories will be enhanced by an acceleration of GTE's out-of-region entry. We discuss this issue in Section V.

CC DOCKET NO. 98-184
AFFIDAVIT OF MAYO AND KASERMAN

43. Both geographic and product positioning considerations point toward the favorable position of these firms to enter each other's service territory. With respect to the geography, the physical proximity of GTE assets to Bell Atlantic's customer base creates a natural extension opportunity for GTE to compete for Bell Atlantic's customers. For example, as seen in Exhibit 3, GTE and Bell Atlantic have large, contiguous service areas in Virginia that are ripe for cross-entry.²⁴ Indeed, Exhibit 3 reveals that GTE presently serves parts of several northern Virginia counties that are also served by Bell Atlantic and which collectively lie within the lucrative Washington D.C metropolitan area. Likewise, GTE is well-poised to attack Bell Atlantic's territories in the Norfolk-Newport News-Virginia Beach area which has a large concentration of federal defense and research facilities and a metropolitan population of over 1.5 million. The geographic proximity of these companies' facilities makes geographic extension a very viable and perhaps inevitable outcome in the absence of the proposed merger.
44. Beyond the physical proximity of the would-be competitors' assets, the fact that both companies have a long tradition of providing virtually the same services also creates the likelihood of cross-entry on a forward-going basis. Specifically, the fact that Bell Atlantic and GTE have the internal company structures to

²⁴ The physical proximity of these companies' assets creates a number of entry-facilitating characteristics. For instance, by extending its geographic reach, each company may be better able to efficiently design and utilize its network including switching, transportation, and maintenance.

CC DOCKET NO. 98-184
AFFIDAVIT OF MAYO AND KASERMAN

support the provision of local exchange and local exchange access services and considerable experience providing these services enhances each company's knowledge of basic demand and cost conditions in these markets. This experience-based knowledge regarding demand and cost conditions in the provision of local exchange services acts to reduce the uncertainty and risks that new entrants without this expertise face.

45. While the physical proximity and the companies' experience with similar product offerings are likely to make cross-entry lucrative as telecommunications markets evolve, cross-entry may be likely for yet another reason. In this situation, it is difficult to imagine that GTE serving, say, a Northern Virginia customer with locations in both GTE and Bell Atlantic's present service territories would not enter the Bell Atlantic territory to offer the multi-location customer the benefits of having GTE as its sole provider of local services (and vice-versa). Similarly, in the face of a demand for a national bundled offering it is difficult to imagine that Bell Atlantic does not represent a viable, favorably positioned, and likely entrant into GTE's service territory.

46. The Impact of the Proposed Merger on Concentration. Nor does Bell Atlantic's and GTE's invocation of a national local market render this merger any less anticompetitive. Assuming arguendo that such a market exists, this merger is strictly horizontal and results in an unacceptable increase in concentration.

CC DOCKET NO. 98-184
AFFIDAVIT OF MAYO AND KASERMAN

47. In a national market, the relevant measure of concentration is the market for local exchange access under this broader market definition.²⁵ Using the DOJ/FTC Horizontal Merger Guidelines criteria and publicly available data on individual firms' ownership of access lines (both switched and dedicated), we calculate the relevant Herfindahl-Hirschman Index (HHI) and the change in that Index (Δ HHI) brought about by this merger.²⁶ Specifically, we calculated the HHI both assuming the SBC-Ameritech merger is approved and, alternatively, denied. Assuming the SBC/Ameritech merger is approved, the post-merger Herfindahl-Hirschman Index (HHI) is 2710, which is well inside the "highly concentrated" category (which begins with HHI=1800). Alternatively, if we assume that the SBC/Ameritech merger application is denied, the post-merger HHI falls to 2125, which is still well within the highly concentrated category.
48. For "highly concentrated" industries, the DOJ/FTC Horizontal Merger Guidelines indicate that mergers of sufficient magnitude to elicit a change in the HHI of more than 50 points potentially "raise significant competitive concerns." For highly concentrated industries with a merger-induced change in the HHI of more

²⁵ We focus on the local exchange access market for two reasons. First, this market is among the least competitive of the four product markets identified above and is an essential input in any bundled products market. And second, the intensity of competition in the exchange access market is likely to influence the pace at which competition grows in the other three product markets. Therefore, the impact of the proposed merger on competition in this market is extremely important to the future growth of competition in this industry.

²⁶ The data for our analysis are drawn from Statistics of Communications Common Carriers, Federal Communications Commission, 1996/1997 Edition, Table 2.10, "Total Access Lines (Switched and Special)."

CC DOCKET NO. 98-184
AFFIDAVIT OF MAYO AND KASERMAN

than 100 points, it is presumed "to create or enhance market power or facilitate its exercise." The increase in concentration brought about by the proposed Bell Atlantic/GTE merger (Δ HHI) is 479, which is over four times the upper-end threshold value of 100. Thus, regardless of the outcome of the SBC/Ameritech merger proposal, the Bell Atlantic/GTE merger causes an unacceptably large increase in concentration in the local exchange access market.²⁷ Moreover, because adoption of a broader geographic market definition does not diminish our other concerns regarding the competitive impacts of this merger, this concentration related effect only serves to heighten those concerns.

V. CONSIDERATION OF APPLICANTS' RATIONALE FOR THE PROPOSED MERGER

49. In their Application for Commission approval of the proposed transaction, Bell Atlantic and GTE present a number of arguments and some limited evidence to support the claim that the net effect of the proposed merger will be pro-competitive. In a nutshell, the basic argument is that, together, these companies can and will launch competitive incursions into other ILECs' markets that, in

²⁷ The DOJ/FTC Horizontal Merger Guidelines state that the presumption of significant competitive harm resulting from mergers that increase industry concentration to this extent potentially may be rebutted by consideration of other relevant factors, the most important of which is barriers to entry. Clearly, however, the merger being proposed here between the largest ILEC and the sixth largest ILEC cannot be justified on entry barrier grounds. Indeed, the defining characteristic of entry barriers is the ability to maintain price above cost for a significant period of time without sacrificing large market share losses. Here, access charges have been held hundreds of percentage points above cost for many years with cumulative market share losses generally well under five percent. This simple fact alone provides indisputable evidence of substantial barriers to entry into this market. Moreover, anyone with any familiarity with this industry knows that barriers to entry into the local exchange access market are quite substantial. Tremendous sunk costs, network effects that require reliance on the incumbent for, at a minimum, interconnection services, and other factors combine to make this market exceedingly difficult to enter on any substantial scale.

CC DOCKET NO. 98-184
AFFIDAVIT OF MAYO AND KASERMAN

isolation, they either cannot or will not launch. The credibility of this argument, however, is called into question by several errors and inconsistencies contained throughout the Application. While we will not undertake here a detailed rebuttal of every point with which we disagree, we believe it is important to point out several of the more egregious flaws in the analysis presented to support this merger. We focus on three of these.

50. First, the core argument -- that this merger is necessary to implement the expanded entry plans of these two firms -- contains several fundamental internal inconsistencies. For example, for some unspecified reason, it is claimed that it is necessary for the largest and the sixth largest ILECs to merge in order for them to be able to enter local exchange markets out of region; but, at the same time, these companies (especially Bell Atlantic) claim to face a substantial threat of entry by numerous, much smaller companies in their own territories. In other words, these firms are arguing that they have to be exceedingly large to enter other ILECs' markets, but even very small companies can successfully enter their markets.

51. In addition, the geographic proximity of GTE's facilities to other ILECs' service territories is viewed as crucial to the success of Bell Atlantic's entry into these territories; but, at the same time, GTE's facilities that are adjacent to Bell Atlantic's territory are claimed to confer no entry-promoting advantages

CC DOCKET NO. 98-184
AFFIDAVIT OF MAYO AND KASERMAN

whatsoever. In other words, they are simultaneously arguing that GTE's facilities are crucial to Bell Atlantic entry into other ILECs' territories, but they are not crucial to entry into Bell Atlantic's territory.

52. Also, Bell Atlantic and GTE claim that tremendous social welfare gains will be reaped by a combined Bell Atlantic/GTE entering other ILECs' territories (presumably due to the absence of any significant competition -- either actual or potential -- in those markets); but, at the same time, they claim that there are little gains to be had by fostering greater entry into Bell Atlantic's territory. In other words, they are implicitly arguing that the other ILECs continue to possess substantial monopoly power, but Bell Atlantic does not.

53. And finally, Bell Atlantic and GTE argue that, if they are allowed to merge, they fully intend to compete vigorously with other ILECs; but, at the same time, they claim that, if they are not allowed to merge, they have no intention of competing with each other. In other words, they are arguing that, if the Commission approves this merger, they will attack all markets, but, if it does not, they will attack no markets.

54. Such fundamental inconsistencies cast considerable doubt on the view that this merger is: (1) necessary for out-of-region entry by these ILECs to occur; (2) required for GTE's widespread facilities to be put to pro-competitive uses; and

CC DOCKET NO. 98-184
AFFIDAVIT OF MAYO AND KASERMAN

(3) likely to yield any social welfare gains. Pro-competitive claims built upon such a shaky foundation cannot support the weight of a proposed merger of this magnitude.

55. Second, in an attempt to provide some much-needed empirical support for the argument that the proposed merger is likely to have net pro-competitive impacts, Bell Atlantic and GTE present a declaration by Professor Thomas Hazlett. In that declaration, Professor Hazlett reports the results of an event study that examines stock price reactions to announcement of the merger for four companies which Bell Atlantic and GTE claim are their competitors -- AT&T, MCI WorldCom, Sprint, and SBC. Finding that all four of these companies' stocks declined at the time the proposed merger was announced (July 28, 1998), Professor Hazlett concludes in his Declaration (¶ 6) that:

This serves as strong evidence that rational investors do not believe that the Bell Atlantic merger with GTE will increase prices for telecommunications customers. The reverse interpretation -- that the merger is seen as increasing competitive rivalry -- is the most reasonable conclusion.

56. Under certain circumstances, a properly conducted event study may provide some limited evidence of the likely competitive consequences of a proposed merger. In the instant case, however, the above conclusion is completely unwarranted. In fact, given the market positions of the companies whose stock prices are examined, the above evidence cannot distinguish between a pro-competitive and an anticompetitive impact. Indeed, given these market

CC DOCKET NO. 98-184
AFFIDAVIT OF MAYO AND KASERMAN

positions, the evidence appears to be more consistent with the latter. As a result, it cannot be used to support approval of the merger.

57. The inability of the observed negative stock price reactions to distinguish the direction of the competitive effects of this merger stems from the fact that the sample firms are not currently direct competitors of either Bell Atlantic or GTE to any significant degree. Rather, three of these companies presently are either potential competitors or present consumers that, under current market conditions must rely upon these ILECs for nondiscriminatory provision of essential inputs (unbundled network elements, wholesale services, interconnection services, etc.) in order to enter and compete in Bell Atlantic's and GTE's territories. Likewise, SBC is a potential competitor that will need access to Bell Atlantic's network to provide competitive local services.

58. As explained in Section IV, however, the proposed merger is likely to result in a heightened incentive and ability for Bell Atlantic and GTE to raise the prices of essential inputs and to implement exclusionary tactics that will hamper or, in the extreme, prevent such entry. To the extent the proposed merger facilitates such exclusionary conduct by these firms, the stock prices of customers of the ILECs' intermediate goods and potential entrants should be expected to decline in response to the announcement. Consequently, the stock market reactions observed by Professor Hazlett

CC DOCKET NO. 98-184
AFFIDAVIT OF MAYO AND KASERMAN

are equally, if not more, consistent with the hypothesis that the proposed merger will have significant anticompetitive consequences -- raising input prices to potential entrants and increasing non-price exclusionary conduct which further increases barriers to entry. Therefore, the proffered evidence simply cannot support the conclusion that is drawn from it. If anything, this evidence tends to support the inference of an anticompetitive effect.

59. Third, a fundamental shortcoming in Bell Atlantic's and GTE's arguments for Commission approval of the proposed merger is the failure to provide a convincing affirmative explanation of why the alleged competitive benefits of this transaction cannot be achieved by independent entry of these two firms into other ILECs' and each other's service territories. That is, why must public policy sacrifice competition between these two companies in order to obtain competition between them and other ILECs? As the analysis presented in Dr. Levinson's accompanying affidavit demonstrates, each of these companies already possesses more-than-adequate resources to enable them to launch the sort of competitive activities they promise will result from the merger. Clearly, such independent action will have far greater pro-competitive effects than are likely to be realized from the merged entity. Moreover, these effects will be felt not only in the other ILECs' existing service territories but in Bell

CC DOCKET NO. 98-184
AFFIDAVIT OF MAYO AND KASERMAN

Atlantic's and GTE's regions as well. Thus, the intensity of competition will be greater and it will be realized in more geographic areas if the merger application is denied.

60. It is virtually always more profitable for rivals to merge than compete. Where such profitability comes at the expense of competition, however, consumers are harmed. While it is certainly understandable why Bell Atlantic and GTE would prefer to join forces rather than attack each other's markets or to attack other ILECs' markets independently, it is, nonetheless, necessary for them to explain why such a union is required for competition to occur. They have failed to do so here.

VI. CONCLUSION

61. Our analysis of the competitive consequences of the proposed Bell Atlantic/GTE merger has followed a standard approach. We began with the issue of market definition. We have chosen to analyze the merger's likely effects under both the traditional approach for geographic markets as well as using Bell Atlantic's and GTE's proposed national market definition. Given these two, alternative geographic market definitions, then, we have evaluated the likely economic impact on exclusionary conduct, barriers to entry, potential competition and regulatory oversight.

CC DOCKET NO. 98-184
AFFIDAVIT OF MAYO AND KASERMAN

62. Our evaluation yields the following conclusions:

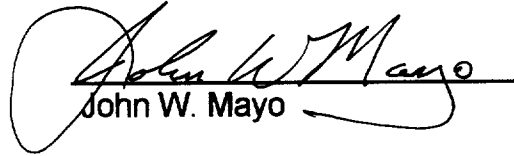
- If consummated, the merger can be seen to increase the merged firms' monopoly power by heightening their ability to control price.
- If consummated, the merger will heighten incentives for exclusionary conduct by the combined firm.
- If consummated, the merger reduces potential competition substantially in markets characterized by extremely high levels of concentration and entry barriers (i.e., in precisely those markets where potential competition is most crucial).
- If consummated, the combination will heighten the need for regulatory enforcement at the same time that policymakers have established a goal of promoting a deregulatory national policy framework. Specifically, the merger will increase the need for and complexity of the companies' implementation of obligations required under the 1996 Act while simultaneously inhibiting the ability of regulators to perform successfully the increasingly necessary oversight functions.

CC DOCKET NO. 98-184
AFFIDAVIT OF MAYO AND KASERMAN

- Accepting arguendo the notion of a broad, national geographic market as alluded to by the Bell Atlantic and GTE, the merger is also seen to have direct effects on industry concentration which greatly exceed the DOJ/FTC Horizontal Merger Guidelines' threshold levels.


63. In sum, the competitive war for local exchange markets has only recently been declared and only a few shots have been fired. Consumers stand to benefit greatly from the competitive battles that are, hopefully, soon to be waged. Lower prices, improved service, and innovative service offerings will emerge as new and existing rivals aggressively fight for the huge revenues at stake. This is not the time for armistices to be signed by the prospective combatants. The peaceful life of the monopolist is simply inconsistent with the policy goal of promoting competition in this industry.

I hereby declare under penalty of perjury that the foregoing is true to the best of my knowledge.


John W. Mayo

STATE OF Maryland:
CK of nonresidents:

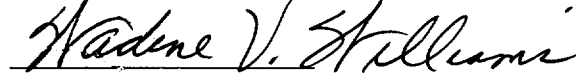
Signed before me this 21st day of November, 1998


Notary Public
Exdate 11-1-02

I declare under penalty of perjury that the forgoing is true and correct to the best of my knowledge.


David L. Kaserman

Subscribed and sworn to before me this 19 day of November 1998.



Notary Public

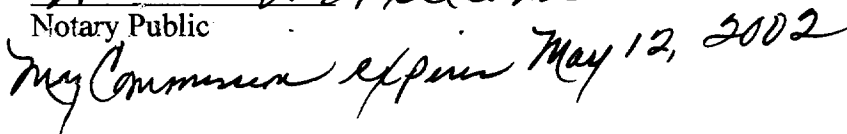


EXHIBIT 1

DAVID L. KASERMAN

I. Personal

Home Address: 719 South Gay Street
Auburn, Alabama 36830
Telephone: (334) 826-3833

Office Address: Department of Economics
203 Lowder Business Building
Auburn University
Auburn, Alabama 36849-5242
Telephone: (334) 844-2905
Messages: (334) 844-2901
FAX: (334) 844-4615
E-mail: kaserman@business.auburn.edu

Date of Birth: September 22, 1947

Place of Birth: Knoxville, Tennessee

Marital Status: Married, two children

II. Education

August 1970 B.S., Economics, The University of Tennessee

March 1976 Ph.D., Economics, The University of Florida

Fields: Industrial Organization, International Trade, Econometrics

Dissertation: "An Economic Analysis of the Home Mortgage Default Insurance Market"

III. Employment

Torchmark Professor of Economics, Auburn University, Auburn, AL 1988-present.

Professor and Head of Economics, Auburn University, Auburn, AL 1987-1988

Professor of Economics, Auburn University, Auburn, AL 1986-1987

Associate Professor of Economics, University of Tennessee, Knoxville, TN, 1983-1986

Visiting Associate Professor of Economics, University of Florida, Gainesville, FL, 1982-1983

Associate Professor of Economics, University of Tennessee, Knoxville, TN, 1981-1982

Assistant Professor of Economics, University of Tennessee, Knoxville, TN, 1979-1981

Economist, Energy Division, Oak Ridge National Laboratory, Oak Ridge, TN, 1977-1979

Economist, Bureau of Economics, Federal Trade Commission, Washington, D.C., 1976-1977

Economist, Office of Policy Development and Research, U.S. Department of Housing and Urban Development, Washington, D.C., 1974-1976

IV. Research Interests

Applied Microeconomics, Industrial Organization, Antitrust, Regulation

V. Grants and Awards

Auburn Utility Research Center Grant, Auburn University, Summer, 1992.

Auburn Utility Research Center Grant, Auburn University, Summer, 1990.

College of Business Outstanding Faculty Research Award, Auburn University, 1990.

Department of Economics Research Grant, Auburn University, Summer, 1989.

College of Business Faculty Research Grant, University of Tennessee, Summer, 1985.

College of Business Outstanding Research Award, University of Tennessee, 1984.

Beta Gamma Sigma Distinguished Faculty Member and Honorary Initiate, 1984.

College of Business Faculty Research Grant, University of Tennessee, Summer, 1984.

Bid Price, Ask Price, and Time on the Market: A Search Model of Housing Prices, funded by the U.S. Department of Housing and Urban Development, Summer - Fall, 1983.

College of Business Faculty Research Grant, University of Tennessee, Summer, 1983.

Participant in Emory University Law and Economics Center's "Legal Analysis for Economists" clinic held at Dartmouth University, New Hampshire, Summer, 1983.

An Economic Analysis of the Automatic Fuel Adjustment Clause, funded by Resources for the Future, Fall - Summer, 1982.

College of Business Outstanding Research Award, University of Tennessee, 1981.

College of Business Faculty Research Grant, University of Tennessee, Summer, 1981.

The University of Tennessee Faculty Research Grant, Summer, 1980.

VI. Publications

Articles

"Testing for Collusion During Periods of Input Supply Disruptions: The Case of Allocations" (with T. Randolph Beard), Antitrust Bulletin, forthcoming.

"Targeted and Untargeted Subsidy Schemes: Evidence from Post-Divestiture Efforts to Promote Universal Telephone Service" (with Ross C. Eriksson and John W. Mayo), Journal of Law and Economics, forthcoming.

"Regulatory Policies Toward Local Exchange Companies Under Emerging Competition: Guardrails or Speedbumps on the Information Highway?" (with John W. Mayo), Information Economics and Policy, forthcoming.

"Dominant Firm Pricing with Competitive Entry and Regulation: The Case of IntraLATA Toll" (with Larry Blank and John W. Mayo), Journal of Regulatory Economics, Vol. 14 (July, 1998), pp. 35-54.

"Telecommunications Policy and the Persistence of the Local Exchange Monopoly" (with John W. Mayo), Business Economics, Vol. 33 (April 1998), pp. 14-19.

"The Simple Welfare Economics of Network Externalities and the Uneasy Case for Subscriber Subsidies" (with A. H. Barnett), Journal of Regulatory Economics, Vol. 13 (May 1998), pp. 245-254.

"Open Entry and Local Telephone Rates: The Economics of IntraLATA Toll Competition" (with John W. Mayo, Larry Blank, and Simran K. Kahai), Review of Industrial Organization, forthcoming.

"The Role of Resale Entry in Promoting Local Exchange Competition" (with T. Randolph Beard and John W. Mayo), Telecommunications Policy, Vol. 22 (1998), pp. 315-326.

"An Efficient Avoided Cost Pricing Rule for Resale of Local Exchange Telephone Services" (with John W. Mayo), Journal of Regulatory Economics, Vol. 11 (January 1997), pp. 91-107.

"A Dynamic Model of Advertising by the Regulated Firm" (with Francois Melese and John W. Mayo), Journal of Economics (Zeitschrift für Nationalökonomie), Vol. 64 (1996), pp. 85-106.

"Market Definition: Implementing the Department of Justice Merger Guidelines" (with Hans Zeisel), Antitrust Bulletin, Vol. 41 (Fall 1996), pp. 665-690.

"Is the 'Dominant Firm' Dominant? An Empirical Analysis of AT&T's Market Power" (with Simran K. Kahai and John W. Mayo), Journal of Law and Economics, Vol. 39 (October 1996), pp. 499-517.

"Competition and Asymmetric Regulation in Long Distance Telecommunications: An Assessment of the Evidence" (with John W. Mayo), Comm Law Conspectus, Vol. 4 (Winter 1996), pp. 1-26.

"The Economics and Ethics of Organ Markets" (with Andy H. Barnett and Roger D. Blair), Society, Vol. 33 (September/October 1996), pp. 8-17.

"An Extension of 'Scope, Learning, and Cross-Subsidy: Organ Transplants in a Multi-Division Hospital'" (with Andy H. Barnett and T. Randolph Beard), Southern Economic Journal, Vol. 62 (January 1996), pp. 760-767.

"Deregulation and Predation in Long-Distance Telecommunications: An Empirical Test" (with Simran K. Kahai and John W. Mayo), Antitrust Bulletin, Vol. 40 (Fall 1995), pp. 645-666.

"Entry and Product Quality Under Price Regulation" (with Richard O. Beil and Jon M. Ford), Review of Industrial Organization, Vol. 10 (June 1995), pp. 361-372.

"The 'Rush to Transplant' and Organ Shortages" (with Andy H. Barnett), Economic Inquiry, Vol. 33 (July 1995), pp. 506-515. To be reprinted in Price Theory and its Applications, F.M. Scherer, editor, Edward Elgar Publishing Limited, Cheltenham, UK, forthcoming.

"Certificate-of-Need Regulation and the Diffusion of New Innovations: A Random Coefficient Model" (with Steven B. Caudill and Jon M. Ford), Journal of Applied Econometrics, Vol. 10 (1995), pp. 73-78.

"Cross-Subsidies in Telecommunications: Roadblocks on 'The Road to More Intelligent Telephone Pricing'" (with John W. Mayo), Yale Journal on Regulation, Vol. 11 (Winter 1994), pp. 119-147. Reprinted in Public Utilities Law Anthology, Allison P. Zabriskie, editor, Vol. 17 (July-December 1994), pp. 899-929.

"A Note on Incentive Incompatibility Under Franchising" (with Roger D. Blair), Review of Industrial Organization, Vol. 9 (1994), pp. 323-330.

"A Diffusion Model of Long-Run State Economic Development," (with Dan M. Berry), Atlantic Economic Journal, Vol. 21 (December 1993), pp. 39-54.

"Inefficient Pricing Can Kill: The Case of Dialysis Industry Regulation" (with A. H. Barnett and T. Randolph Beard), Southern Economic Journal, Vol. 60 (October 1993), pp. 393-404. To be reprinted in The Foundations of Regulatory Economics, Robert B. Ekelund, editor, Edward Elgar Publishing Limited, Cheltenham, UK, forthcoming.

"The Shortage of Organs for Transplantation: Exploring the Alternatives (with A. H. Barnett), Issues in Law and Medicine, Vol. 9 (Fall 1993), pp. 117-137.

"The Medical Community's Opposition to Organ Markets: Ethics or Economics?" (with A. H. Barnett and T. Randolph Beard), Review of Industrial Organization, Vol. 8 (December 1993), pp. 669-678.

"Certificate-of-Need Regulation and Entry: Evidence from the Dialysis Industry" (with Jon M. Ford), Southern Economic Journal, Vol. 59 (April 1993), pp. 783-791.

"The Political Economy of Deregulation: The Case of Intrastate Long Distance" (with John W. Mayo and Patricia L. Pacey), Journal of Regulatory Economics, Vol. 5 (March 1993), pp. 49-63. To be reprinted in The Foundations of Regulatory Economics, Robert B. Ekelund, editor, Edward Elgar Publishing Limited, Cheltenham, UK, forthcoming.

"Two Views of Applied Welfare Analysis: The Case of Local Telephone Service Pricing: A Comment" (with David M. Mandy and John W. Mayo), Southern Economic Journal, Vol. 59 (April 1993), pp. 822-827.

"Modeling Regulatory Behavior: The Economic Theory of Regulation Versus Rules of Thumb" (with Steven B. Caudill and Bae-Geun Im), Journal of Regulatory Economics, Vol. 5 (1993), pp. 252-262.

"A Diffusion Model of Industrial Sector Growth in Developing Countries" (with Don P. Clark and Darrarat Anatanasuwong), World Development, Vol. 21 (1993), pp. 421-428.

"Horizontal Mergers and the Balance of Trade" (with Francois Melese), Managerial and Decision Economics, Vol. 14 (Jan/Feb 1993), pp. 83-90.

"Improving Organ Donation: Compensation Versus Markets" (with Andy H. Barnett and Roger D. Blair), Inquiry, Vol. 29 (Fall 1992), pp. 372-378.

"Reimbursement Rates and Quality of Care in the Dialysis Industry: A Policy Discussion," Issues in Law and Medicine, Vol. 8 (Summer 1992), pp. 81-102.

"Domestic Market Structure and International Trade in an Open Economy" (with Don P. Clark and Francois Melese), Quarterly Review of Economics and Finance, Vol. 32 (Autumn 1992), pp. 3-15.

"An Investment Model of Durable Good Diffusion" (with Jerry R. Jackson), Review of Industrial Organization, Vol. 6 (1991), pp. 199-214.

"Competition for 800 Service: An Economic Evaluation" (with John W. Mayo), Telecommunications Policy, Vol. 15 (October 1991), pp. 395-410.

"The Measurement of Vertical Economies and the Efficient Structure of the Electric Utility Industry" (with John W. Mayo), Journal of Industrial Economics, Vol. 39 (September 1991), pp. 483-502.

"The Economics and Ethics of Alternative Cadaveric Organ Procurement Policies" (with Roger D. Blair), Yale Journal on Regulation, Vol. 8 (Summer 1991), pp. 403-452.

"An Economic Analysis of Transplant Organs: A Comment and Extension" (with Andy H. Barnett), Atlantic Economic Journal, Vol. 14 (June 1991), pp. 57-63.

"Regulation, Advertising and Economic Welfare" (with John W. Mayo), Journal of Business Economics, Vol. 64 (April 1991), pp. 255-267. To be reprinted in The Foundations of Regulatory Economics, Robert B. Ekelund, editor, Edward Elgar Publishing Limited, Cheltenham, UK, forthcoming.

"Exports and Antitrust: Complements or Substitutes?" (with Don P. Clark and Jay Cresswell), Review of Industrial Organization, Vol. 5 (Summer 1990), pp. 41-51.

"Cross-Subsidization in Telecommunications: Beyond the Universal Service Fairy Tale" (with John W. Mayo and Joseph E. Flynn), Journal of Regulatory Economics, Vol. 2 (September 1990), pp. 231-249.

"Barriers to Trade and the Import Vulnerability of U.S. Manufacturing Industries" (with Don P. Clark and John W. Mayo), Journal of Industrial Economics, Vol. 38 (June 1990), pp. 433-447.

"A Pedagogical Treatment of Bilateral Monopoly" (with Roger D. Blair and Richard E. Romano), Southern Economic Journal, Vol. 55 (April 1989), pp. 831-841.

"Proof of Damages in Construction Industry Bid-Rigging Cases" (with Jeffrey H. Howard, Esq.), Antitrust Bulletin, Vol. 34 (Summer 1989), pp. 359-393.

"Internalizing Externalities Through Union Mergers" (with John L. Conant), Journal of Labor Research, Vol. 10 (Summer 1989), pp. 243-253.

"Equilibration in a Negotiated Market: Evidence from Housing" (with John L. Trimble and Ruth C. Johnson), Journal of Urban Economics, Vol. 26 (July 1989), pp. 30-42.

"Endogenous Regulation and the Firm's Regulatory Expenditures" (with Bae-Geun Im and Francois Melese), Applied Economics, Vol. 21 (1989), pp. 375-385.

"Rent Seeking and the Allowed Rate of Return: A Recursive Model" (with Bae-Geun Im and Francois Melese), Review of Industrial Organization, Vol. 3 (Fall 1988), pp. 27-51.

"The Rising Incidence of Co-Authorship in Economics: Further Evidence" (with Andy H. Barnett and Richard W. Ault), Review of Economics and Statistics, Vol. 70 (August 1988), pp. 539-543.

"Long Distance Telecommunications Policy: Rationality on Hold" (with John W. Mayo), Public Utilities Fortnightly, Vol. 122 (December 22, 1988), pp. 18-27.

"Vertical Integration, Tying, and Alternative Vertical Control Mechanisms" (with Roger D. Blair), Connecticut Law Review, Vol. 20 (Spring 1988), pp. 523-568.

"Superconductors and the Future of Electric Utilities" (with Francois Melese), Journal of Policy Analysis and Management, Vol. 7 (Fall 1987), pp. 135-140.

"Competition on Trial: Florida's Experiment with Deregulated Trucking" (with Roger D. Blair and James T. McClave), Challenge, Vol. 30 (September/October 1987), pp. 60-64.

"A Note on Bilateral Monopoly and Formula Price Contracts" (with Roger D. Blair), American Economic Review, Vol. 77 (June 1987), pp. 460-463.

"Market Based Regulation of a Quasi-Monopoly: A Transition Policy for Telecommunications" (with John W. Mayo), Policy Studies Journal, Vol. 15 (March 1987), pp. 395-413.

"The Ghosts of Deregulated Telecommunications: An Essay by Exorcists" (with John W. Mayo), Journal of Policy Analysis and Management, Vol. 6 (Fall 1986), pp. 84-92.

"Motor Carrier Deregulation: The Florida Experiment" (with Roger D. Blair and James T. McClave), Review of Economics and Statistics, Vol. 68 (February 1986), pp. 159-164.

"Advertising and the Residential Demand for Electricity" (with John W. Mayo), Journal of Business, Vol. 58 (October 1985), pp. 399-408.

"A Note on Purchased Power Adjustment Clauses" (with Roger D. Blair and Patricia L. Pacey), Journal of Business, Vol. 58 (October 1985), pp. 409-417.

"A Note on Vertical Integration as Entry" (with Roger D. Blair and Thomas E. Copper), International Journal of Industrial Organization, Vol. 3 (1985), pp. 219-229.

"Unanswered Questions About Franchising: Reply" (with Roger D. Blair), Southern Economic Journal, Vol. 51 (January 1985), pp. 933-936.

"To Which Fiddle Does the Regulator Dance? Some Empirical Evidence" (with L. Roy Kavanaugh and Richard C. Tepel), Review of Industrial Organization, Vol. 1 (Winter 1984), pp. 246-258. Reprinted in Business and Government in America Since 1870, Robert F. Himmelberg, ed., Garland Publishing, Inc., Hamden, Connecticut, 1994.

"The Impact of Improved Mileage on Gasoline Consumption" (with Roger D. Blair and Richard C. Tepel), Economic Inquiry, Vol. 22 (April 1984), pp. 209-217.

"The Measurement of Land Prices and the Elasticity of Substitution in Housing Production" (with Jerry R. Jackson and Ruth C. Johnson), Journal of Urban Economics, Vol. 16 (July 1984), pp. 1-12.

"Housing Market Capitalization of Energy-Saving Durable Good Investments" (with Ruth C. Johnson), Economic Inquiry, Vol. 21 (July 1983), pp. 374-386.

"Ownership and Control in the Modern Corporation: Antitrust Implications" (with Roger D. Blair), Journal of Business Research, Vol. 11 (1983), pp. 333-343.

"Automatic Fuel Adjustment Clauses: The Issues and the Evidence" (with Roger D. Blair), Public Utilities Fortnightly, Vol. 110 (Nov. 25, 1982), pp. 27-32.

"Optimal Franchising" (with Roger D. Blair), Southern Economic Journal, Vol. 48 (October 1982), pp. 494-505.

"A Note on Dual Input Monopoly and Tying" (with Roger D. Blair), Economics Letters, Vol. 10 (1982), pp. 145-151.

"Franchising: Monopoly by Contract-Comment" (with Roger D. Blair), Southern Economic Journal, Vol. 48 (April 1982), PP. 1074-1079.

"The Impact of the Automatic Adjustment Clause on Fuel Purchase and Utilization Practices in the U.S. Electric Utility Industry" (with Richard C. Tepel), Southern Economic Journal, Vol. 48 (January 1982), pp. 687-700.

"The Albrecht Rule and Consumer Welfare: An Economic Analysis" (with Roger D. Blair), University of Florida Law Review, Vol. 33 (Summer 1981), pp. 461-484. Reprinted in The Journal of Reprints for Antitrust Law and Economics, William J. Curran III, Esq., editor, Vol. 26 (1977), pp. 825-850.

"A Note on Predatory Vertical Integration in the U.S. Petroleum Industry" (with Patricia L. Rice), Journal of Economics and Business, Vol. 33 (Spring/Summer 1981), pp. 262-266.

"Default Risk on Home Mortgage Loans: A Test of Competing Hypotheses" (with Jerry R. Jackson), Journal of Risk and Insurance, Vol. 47, (December 1980), pp. 678-690.

"Vertical Control With Variable Proportions: Ownership Integration and Contractual Equivalents" (with Roger D. Blair), Southern Economic Journal, Vol. 47 (April 1980), pp. 1118-1128.

"Default Risk and the Home Mortgage Insurance Industry: An Uncertainty Approach," Quarterly Review of Economics and Business, Vol. 18 (Winter 1978), pp. 59-68.

"A Methodological Note on the Evaluation of New Technologies: The Case of Coal Gasification," Energy, Vol. 3 (1978), pp. 737-745.

"Theories of Vertical Integration: Implications for Antitrust Policy," Antitrust Bulletin, Vol. 23 (Fall 1978), pp. 483-510. Reprinted in Economic Analysis of Antitrust, Terry Calvani and John J. Siegfried, eds., Little-Brown and Company, Boston, Massachusetts, 1979. Also reprinted in Corporate Counsel's Annual - 1979, Jeremiah J. Spires and Edward J. Burchell, eds., Matthew Bender, Inc., New York, 1979.

"Uncertainty and the Incentive for Vertical Integration" (with Roger D. Blair), Southern Economic Journal, Vol. 45 (July 1978), pp. 266-272.

"Vertical Integration, Tying, and Antitrust Policy" (with Roger D. Blair), American Economic Review, Vol. 68 (June 1978), pp. 266-272.

"Evidence on the Decline of FHA," Journal of Money, Credit and Banking, Vol. 10 (May 1978), pp. 194-205.

"Related Market Conditions and Interindustrial Mergers: A Comment" (with John R. Haring), American Economic Review, Vol. 68 (March 1978), pp. 225-227.

"Regional Considerations of the Clean Air Act" (with Roger D. Blair and James M. Fesmire), Growth and Change, Vol. 7 (October 1976), pp. 3-7.

"Market Structure and Costs: An Explanation of the Behavior of the Antitrust Authorities" (with Roger D. Blair), Antitrust Bulletin, Vol. 21 (Winter 1976), pp. 691-702.

Books and Monographs

Government and Business: The Economics of Antitrust and Regulation (with John W. Mayo), The Dryden Press, Hinsdale, Illinois, 1995.

Antitrust Economics (with Roger D. Blair), Richard D. Irwin, Homewood, Illinois, 1985.

The Law and Economics of Vertical Integration and Control (with Roger D. Blair), Academic Press, New York, 1983.

"Monopoly Leveraging, Path Dependency, and the Case for a Local Competition Threshold for RBOC Entry into InterLata Toll" (with T. Randolph Beard and John W. Mayo), in Regulation Under Increasing Competition, Michael A. Crew, editor, Kluwer Academic Publishers, Boston, forthcoming.

"The Quest for Universal Telephone Service: The Misfortunes of a Misshapen Policy" (with John W. Mayo), in Telecommunications Policy: Have Regulators Dialed the Wrong Number? Donald L. Alexander, ed., Praeger, Westport, CT, 1997.

"Long-Distance Telecommunications: Expectations and Realizations in the Post-Divestiture Period" (with John W. Mayo), in Incentive Regulation for Public Utilities, Michael A. Crew, ed., Kluwer Academic Publishers, Boston, MA, 1994.

Monopoly Leveraging Theory: Implications for Post-Divestiture Telecommunications Policy (with John W. Mayo), Center for Business and Economic Research, University of Tennessee, Knoxville, Tennessee, March 1993.

"Deregulation and Market Power Criteria: An Evaluation of State Level Telecommunications Policy" (with John W. Mayo), in Telecommunications Deregulation: Market Power and Cost Allocation Issues, John R. Allison, ed., Quorum Books, New York, NY, 1990.

"The Economics of Regulation: Theory and Policy in the Postdivestiture Telecommunications Industry" (with John W. Mayo), in Public Policy Toward Corporations, Arnold Heggestad, ed., University of Florida Press, 1988.

"Tying Arrangements and Uncertainty" (with Roger D. Blair), in Research in Finance: Management Under Government Intervention, Robert F. Lanzillotti and Yoram C. Peles, eds. JAI Press, Greenwich, Connecticut, 1983.

"Preservation of Quality and Sanctions Within the Professions" (with Roger D. Blair), in Regulating the Professions: A Public Policy Symposium, Roger D. Blair and Stephen Rubin eds., Lexington Books, Lexington, Massachusetts, 1979.

"An Econometric Analysis of the Decline in Federal Mortgage Default Insurance," in Capital Markets and the Housing Sector: Perspectives on Financial Reform, R. M. Buckley, J. A. Tuccillo, and K. E. Villani, eds., Ballinger Publishing Company, Cambridge, Massachusetts, 1977.

"The Literature on Incentives" (with Roger D. Blair and Frank A. Sloan), Chapter 2 in The Geographic Distribution of Nurses and Public Policy, Department of H.E.W. Publication No. (NRA) 75-53, Washington, D.C., 1975.

Proceedings, Book Reviews and Others

Reviewed Managing Business Transactions: Controlling the Cost of Coordinating, Communicating, and Decision Making, Paul H. Rubin (New York: The Free Press, 1990), Journal of Economic Literature, Vol. 30 (June 1992), pp. 900-901.

Reviewed Antitrust Economics: Merger, Contracting and Strategic Behavior, Oliver E. Williamson (Oxford: Basil Blackwell, 1990) Managerial and Decision Economics, Vol. 13 (September-October 1992), pp. 457-461.

Reviewed Private Antitrust Litigation: New Evidence, New Learning, Lawrence J. White, ed. (Cambridge, MA: MIT Press, 1988) Journal of Economic Literature, Vol. 29 (June 1991), pp. 636-638.

Reviewed The Antitrust Revolution, John E. Kwoka and Lawrence J. White, eds. (Glenview, IL: Scott, Foresman/Little Brown, 1989) Review of Industrial Organization, Vol. 4 (Fall 1989), pp. 143-146.

Reviewed New Developments in the Analysis of Market Structure, Joseph E. Stiglitz and G. Frank Mathewson, eds. (Cambridge, Mass.: The MIT Press, 1986) Antitrust Bulletin, Vol. 34 (Summer 1989), pp. 429-435.

Edited special memorial issue of the Survey of Business, Vol. 20 (Summer 1984) entitled "Industrial Organization and Antitrust Policy," in honor of Professor P. David Qualls.

Reviewed Economic Regulation: Essays in Honor of James R. Nelson, Kenneth D. Boyer and William G. Shepherd, eds. (East Lansing: MSU Public Utilities Paper, 1981) Southern Economic Journal, Vol. 49 (April 1983), pp. 1197-1198.

"Electricity Demand Modelling as an Input to NRC Licensing Decisions" (with James Van Dyke), Energy Modelling II: The Interface Between Model Builder and Decision Maker Symposium Papers, Institute of Gas Technology, June 1980.

"The Relative Quality of Graduate Programs: A More Balanced Econometric Approach" (with Jerry R. Jackson), American Statistical Association Proceedings of the Business and Economic Statistics Section, American Statistical Association, Washington, D.C., 1974.

"The Forward Exchange Rate: Its Determination and Behavior as a Predictor of the Future Spot Rate," American Statistical Association Proceedings of the Business and Economic Statistics Section, American Statistical Association, Washington, D.C., 1974.

VII. Papers in Progress

"Modeling Entry and Barriers to Entry: A Test of Alternative Specifications" (with Mark L. Burton and John W. Mayo).

"Vertical Integration, Regulation, and Sabotage" (with T. Randolph Beard and John W. Mayo).

"A Note on the Symmetry of Vertical Price and Output Restraints: The Missing Link."

"The Economic Theory of Regulation: A Graphical Exposition" (with Richard W. Ault and John W. Mayo).

"Ownership Structure and the Quality of Medical Care: Evidence from the Dialysis Industry" (with Jon M. Ford).

"Dialysis Treatment Modality and the Quality of Life: Evidence from Suicide Rates" (with Jon M. Ford).

"Markets for Organs: The Question of Supply" (with A. Frank Adams, III and A. H. Barnett).

"Testing for Tacit Collusion: The Case of Long Distance" (with Simran K. Kahai and John W. Mayo).

"Regulation and Common Costs: Estimation versus Allocation" (with Mark L. Burton and John W. Mayo).

"Regulation, Competition, and the Optimal Recovery of Embedded Costs" (with T. Randolph Beard and John W. Mayo).

VIII. Testimony

United States of America v. Mark Albert Maloof, United States District Court, Southern District of Texas, Houston Division, December 15, 1997. Testified on behalf of defendant in a price-fixing case in the metal building insulation industry.

An Inquiry Into Universal Service and Funding Issues Before the Kentucky Public Service Commission, Administrative Case No. 360, October 10, 1997.

Consideration of BellSouth Telecommunications, Inc.'s Entry into InterLATA Services Pursuant to Section 271 of the Telecommunications Act of 1996, Before the Florida Public Service Commission, Docket No. 960786-TL, July 31, 1997.

Consideration of BellSouth Telecommunications, Inc.'s Entry into InterLATA Services Pursuant to Section 271 of the Telecommunications Act of 1996, Before the Alabama Public Service Commission, Docket No. 25835, July 25, 1997.

Ex Parte to Determine Prices Bell Atlantic - Virginia, Inc. Is Authorized to Charge Competing Local Exchange Carriers In Accordance With The Telecommunications Act of 1996 and Applicable State Law, Before the State Corporation Commission, Commonwealth of Virginia, Case No. PUC970005, April 23, 1997.

Hearing pertaining to the pricing standards that should apply to Bell Atlantic's Statement of Generally Available Terms and Conditions under the Telecommunications Act of 1996, Before the Public Service Commission of the District of Columbia, Formal Case No. 962, March 24, 1997.

Consideration of BellSouth Telecommunications, Inc.'s Entry into InterLATA Services Pursuant to Section 271 of the Telecommunications Act of 1996, Before the Louisiana Public Service Commission, Docket No. _____, April, 1997.

Hearing pertaining to the pricing standards that should apply to both AT&T's arbitrated interconnection agreement and Bell Atlantic's Statement of Generally Available Terms and Conditions under the Telecommunications Act of 1996, Before the Public Service Commission

of West Virginia, Case Nos.: 96-1516-T-PC; 96-1561-T-PC; 96-1009-T-PC; 96-1533-T-T, February 13, 1997.

Arbitration Hearing Between AT&T and BellSouth Pursuant to Section 252 of the Telecommunications Act of 1996, Before the Mississippi Public Service Commission, Docket No. 96-UA-0559, February 10, 1997.

Arbitration Hearing Between AT&T and GTE Pursuant to Section 252 of the Telecommunications Act of 1996, Before the South Carolina Public Service Commission, Docket No. 96-375, February 5, 1997.

Arbitration Hearing Between AT&T and BellSouth Pursuant to Section 252 of the Telecommunications Act of 1996, Before the South Carolina Public Service Commission, February 3, 1997.

Arbitration Hearing Between AT&T and GTE Pursuant to Section 252 of the Telecommunications Act of 1996, Before the Kentucky Public Service Commission, Case No. 96-478, January 13, 1997.

Arbitration Hearing Between AT&T and GTE Pursuant to Section 252 of the Telecommunications Act of 1996, Before the Alabama Public Service Commission, December 17, 1996.

Arbitration Hearing Between AT&T and BellSouth Pursuant to Section 252 of the Telecommunications Act of 1996, Before the Louisiana Public Service Commission, Docket No. U-22145, December 16, 1996.

Arbitration Hearing Between AT&T and BellSouth Pursuant to Section 252 of the Telecommunications Act of 1996, Before the Alabama Public Service Commission, December 12, 1996.

Arbitration Hearing Between AT&T and GTE Pursuant to Section 252 of the Telecommunications Act of 1996, Before the State Corporation Commission of the Commonwealth of Virginia, November 21, 1996.

Arbitration Hearing Between AT&T and BellSouth Pursuant to Section 252 of the Telecommunications Act of 1996, Before the Georgia Public Service Commission, November 13, 1996.

Arbitration Hearing Between AT&T and GTE Pursuant to Section 252 of the Telecommunications Act of 1996, Before the North Carolina Utilities Commission, Docket No. P140, SUB 51 (GTE), October 24, 1996.

Arbitration Hearing Between AT&T and BellSouth Pursuant to Section 252 of the Telecommunications Act of 1996, Before the Tennessee Regulatory Authority, Docket No. 96-01152, October 23, 1996.

In the Matter of the Interconnection Contract Negotiations Between AT&T Communications of the Midwest, Inc., and GTE Communications, Inc. Pursuant to U.S.C. Section 252, Before the Minnesota Public Utilities Commission, Docket No. P-442,407/M-96-939, October 22, 1996.

AT&T Communications of Illinois, Inc., Petition for Arbitration of Interconnection Terms, Conditions and Prices from GTE North Incorporated and GTE South Incorporated, in their respective service areas, Before the Illinois Commerce Commission, Docket No. 96-AB-005, October 21, 1996.

In the Matter of the Interconnection Contract Negotiations Between AT&T and GTE Midwest Incorporated Pursuant to 47 U.S.C. Section 252, Before the State of Iowa, Department of Commerce, Utilities Board, Docket No. ARB-96-3, October 15, 1996.

In the Matter of the Interconnection Contract Negotiations Between AT&T Communications of the Midwest, Inc., and USWest Communications, Inc., Pursuant to 47 U.S.C. Section 252, Before the Minnesota Public Utilities Commission, Docket No. P-442,421/M-96-855, October 14, 1996.

Arbitration Hearing Between AT&T and BellSouth Pursuant to Section 252 of the Telecommunications Act of 1996, Before the Florida Public Service Commission, Docket No. 960833-TP, October 9, 1996.

Arbitration Hearing Between AT&T and BellSouth Pursuant to Section 252 of the Telecommunications Act of 1996, Before the North Carolina Utilities Commission, Docket No. P-140, SUB 50, October 1, 1996.

In the Matter of the Interconnection Contract Negotiations Between AT&T and USWest Communications, Inc. Pursuant to 47 U.S.C. Section 252, Before the State of Iowa, Department of Commerce, Utilities Board, September 25, 1996.

In Re: Petition of AT&T Communications of the South Central States, Inc. for Exemption of Services Pursuant to T.C.A. § 65-5-209(b), Docket No. 96-0650, Before the Tennessee Public Service Commission, May, 1996.

In Re: U S West Communications, Inc., Docket No. RPU-95-11, Before the Department of Commerce Utilities Board, State of Iowa, March, 1996.

In Re: An Inquiry into Local Competition, Universal Service, and the Non-Traffic Sensitive Access Rate, Administrative Case No. 355, Before the Kentucky Public Service Commission, February, 1996.

In the Matter of Application of GTE South Incorporated for, and Election of, Price Regulation, Docket No. P-19, SUB 277, Before the North Carolina Utilities Commission, February, 1996.

In the Matter of Petition of Carolina Telephone and Telegraph Company and Central Telephone Company for Approval of Price Regulation Plan Pursuant to G.S. 62-133.5, Docket Nos. P-7, SUB 825, and P-10, SUB 479, Before the North Carolina Utilities Commission, January, 1996.

In the Matter of Application of BellSouth Telecommunications, Inc. for, and Election of, Price Regulation, Docket No. P-55, SUB 1013, Before the North Carolina Utilities Commission, January, 1996.

In Re: AT&T Communications of Illinois, Inc.'s Petition for a Total Local Exchange Wholesale Service Tariff from Illinois Bell Telephone Company d/b/a Ameritech Illinois and Central Telephone Company Pursuant to Section 13-505.5 of the Illinois Public Utilities Act, Docket Nos. 95-0458 and 95-0531, Before the Illinois Commerce Commission, December, 1995.

In Re: U S West Communications, Inc., Docket No. RPU-95-10, Before the Department of Commerce Utilities Board, State of Iowa, November, 1995.

Application of BellSouth Telecommunications, Inc., D/B/A South Central Bell Telephone Company for a Price Regulation Plan, Docket No. 95-02614, Before the Tennessee Public Service Commission, November, 1995.

Request of AT&T of the Southern States for Approval of an Alternative Regulation Plan for Certain Services, Docket No. 95-661-C, Before the Public Service Commission of South Carolina, June, 1995.

Order of the Mississippi Public Service Commission Establishing an Inquiry into Whether Regulation of South Central Bell Should Be Changed from Incentive Regulation to Price Regulation and Related Issues, Docket No. 94-UA-536, Before the Mississippi Public Service Commission, May, 1995.

Investigation Into IntraLATA Interconnection Arrangements (Presubscription), Docket No. I-00940034, Before the Pennsylvania Public Utility Commission, March, 1995.

Ex Parte Presentation to the Staff of the Federal Communications Commission Regarding Competitiveness of the Long-Distance Market, March, 1995.

Application of Contel of Virginia, Inc. D/B/A GTE Virginia to Implement Community Calling Plans in Various GTE Virginia Exchanges Within the Richmond and Lynchburg LATAs, Case No. PUC930035, Before the Virginia State Corporation Commission, October, 1994.

City of Tuscaloosa, et al. vs. Harcros Chemicals, Inc., et al., Case No. CV-92-G-1614-S, Northern District of Alabama. Retained by three of the defendants in a bid-rigging case in the repackaged chlorine industry. Deposition taken in August, 1994.

Ex-Parte: In the Matter of Investigating Telephone Regulatory Methods Pursuant to Virginia Code, Section 56-235.5, et cetera, Case No. PUC930036, Before the Virginia State Corporation Commission, March, 1994.

In the Matter of Investigation to Consider Whether Competitive Intrastate Offerings of Long Distance Telephone Service Should be Allowed in North Carolina and What Rules and Regulations Should be Applicable to Such Competition if Authorized, Docket No. P-100, SUB 72, Before the North Carolina Utilities Commission, July, 1993.

Tariff Filing by South Central Bell Telephone Company for Presumptively Valid Regulation for New Optional Services and for Rate Reductions in Existing Services (Tariff 93-039), Docket No. 93-03038, Before the Tennessee Public Service Commission, April, 1993

Petition of AT&T of the South Central States, Inc. for Reduced Regulation of Intrastate Telecommunications Services, Case No. 92-297, Before the Public Service Commission, Commonwealth of Kentucky, January, 1993.

Order of the Mississippi Public Service Commission Initiating Hearings Concerning (1) IntraLATA Competition in the Telecommunication Industry and (2) Payment of Compensation by Interexchange Telecommunication Carriers and Resellers to Local Exchange Companies in Addition to Access Charges, Docket No. 90-UA-0280, Before the Mississippi Public Service Commission, May, 1991.

AT&T Communications of the South Central States, Inc.--Application for Limited IntraLATA Telecommunications Certificate of Public Convenience and Necessity, Docket No. 89-11065, Before the Tennessee Public Service Commission, March, 1991.

Inquiry of the General Counsel into the Reasonableness of the Rates and Services of Southwestern Bell Telephone Company, Docket No. 8585, Public Utility Commission of Texas, March-April, 1990.

In the Matter of the Application of AT&T Communications of the Southwest, Inc., to Institute Flexible Price Cap Regulation of Its Intrastate Services, Docket No. 167, 493-U, 90-AT&T-19-R, Before the State Corporation Commission of the State of Kansas, February, 1990.

In the Matter of: An Inquiry into IntraLATA Toll Competition and Appropriate Compensation Scheme for Completion of IntraLATA Calls by Interexchange Carriers and WATS Jurisdictionality, Administrative Case No. 323, Phase I, Before the Public Service Commission, Commonwealth of Kentucky, February, 1990.

In Re: Investigation of the Revenue Requirements, Rate Structures, Charges, Services, Rate of Return and Construction Program of AT&T Communications of the South Central States, Inc. in its Louisiana Intrastate Operations, Appropriate Level of Access Charges and All Matters Relevant to the Rates and Services Rendered by the Company, Docket No. U-17970, Before the Louisiana Public Service Commission, June, 1989.

In the Matter of the Investigation for the Purpose of Determining the Classification of the Services Provided by Interexchange Telecommunications Companies within the State of Missouri, Case No. TO-88-142, Before the Public Service Commission of the State of Missouri, February, 1989.

In the Matter of the Petition of the General Counsel for an Evidentiary Proceeding to Determine Market Dominance Among Interexchange Telecommunications Carriers, Docket No. 7790, Before the Public Utility Commission of Texas, June 1988.

In the Matter of Alternative Regulatory Frameworks for Local Exchange Carriers, Docket I.87-11-033, Before the Public Utilities Commission of the State of California, January 1988.

The Review of Private Line Services, Case No. 6633, Before the Public Utilities Commission of the State of Colorado, September, 1987.

Testified before the Texas State Legislature (committees in both the House and the Senate) concerning appropriate regulatory policy in the post divestiture long-distance telecommunications industry, March, 1987.

In the Matter of the Petition of AT&T Communications of the Pacific Northwest, Inc. for Classification as a Competitive Telecommunications Company, Cause No. U-86-113, Before the Washington Utilities and Transportation Commission, November, 1986.

Performed a complete damage study for the City of Chattanooga in a bid-rigging case in the sewer construction industry. Testified by deposition, July, 1986.

Testified by affidavit in Federal Court in Columbus, Georgia, on behalf of Royal Crown Cola. Temporary restraining order hearing against the Coca-Cola/Dr. Pepper and the Pepsico/7-Up mergers.

In the Matter of Occidental Petroleum Corporation and Tenneco Plastics Corporation (Merger Case-Preliminary Injunction Hearing in Federal District Court, Washington, D.C.), March 1986.

Petition of General Counsel for Initiation of an Evidentiary Proceeding to Establish Telecommunications Submarkets, Docket No. 6264, Before the Public Utility Commission of Texas, September, 1985.

In the Matter of an Investigation of Intrastate Separations, Settlements and Intrastate Toll Rate of Return, Docket No. 83-042-U, Before the Arkansas Public Service Commission, April, 1985.

United States of America Before Federal Trade Commission in the Matter of the B.F. Goodrich Company, Diamond Shamrock Chemicals Company, and Diamond Shamrock Plastics Corporation (Merger Case), January, 1985.

Regulation of Interexchange Carriers, Docket No. 127, 140-U (Phase IV), Before the Corporation Commission of the State of Kansas, October, 1984.

EXHIBIT 2

VITA

JOHN W. MAYO

CURRENT POSITION:

Professor of Economics, Business and Public Policy
Georgetown University
School of Business
Old North Building
37th and O Streets, N.W.
Washington, D.C. 20057

EDUCATION:

Ph.D., 1982, Washington University (St. Louis)

Dissertation: "Diversification and Performance in the U.S. Energy Industry"

M.A., 1979, Washington University (St. Louis)

B.A., 1977, Hendrix College, Conway, Arkansas

FIELDS OF SPECIALIZATION:

Industrial Organization
Regulatory and Antitrust Policy
Applied Microeconomics
Econometrics

PREVIOUS POSITIONS:

1997-1998 (Academic year) – Visiting Professor of Economics, Business and Public Policy, Georgetown University School of Business, Washington, D.C.

July 1994 – July 1998 – The University of Tennessee, Knoxville, TN.
Professor of Economics, Department of Economics.

July 1989 - June 1994 – The University of Tennessee, Knoxville, TN.
Research Associate Professor, Center for Business and Economic Research, and
Associate Professor of Economics, Department of Economics.

September 1981 - June 1989 -- The University of Tennessee, Knoxville, TN.
Research Assistant Professor, Center for Business and Economic Research, and
Assistant Professor of Economics, Department of Economics, September 1981-
June 1988.

June 1984 - June 1985 -- U.S. Senate, Small Business Committee.
Chief Economist, Democratic Staff.

August 1982 - December 1982 -- VPI, Blacksburg, VA.
Visiting Assistant Professor of Economics, Blacksburg, Virginia.

1980 - 1981 -- Washington University, Center for the Study of American Business
Dissertation Fellow

1979 -- International Institute for Applied Systems Analysis (IIASA) Laxenburg, Austria.
Energy Research Fellow

1979-1980 -- Washington University, Graduate School of Business Administration
Research Assistant.

1978 -- Washington University, Institute for Urban and Regional Studies.
Research Assistant

HONORS, AWARDS, AND GRANTS:

Undergraduate: Mosley Economics Prize (#1 graduating economics major), Alpha Chi
(scholastic), Blue Key, Senior Honors Seminar.

Graduate: 1977-78 University Fellowship, Washington University; 1979 National
Academy of Sciences Young Research Fellow, Laxenburg, Austria; 1979-81 President,
Washington University Economics Graduate Student Association; 1980-81 Dissertation
Fellowship, Center for the Study of American Business, Washington University.

Post-Graduate: 1993-1995 William B. Stokely Scholar, College of Business
Administration, The University of Tennessee; 1988 South Central Bell Research Grant;
Research Affiliate, Center of Excellence for New Venture Analysis, The University of
Tennessee; 1983-1985 Summer Faculty Research Fellowships, College of Business
Administration, The University of Tennessee.

COURSES TAUGHT:

Undergraduate: Principles of Microeconomics, Current Economic Problems, Government and Business, Intermediate Microeconomics, Energy Economics

Graduate: Managerial Economics (MBA), Managing in a Regulated Economy (MBA), Economics (Executive MBA), The Economics of Strategy (MBA), Business and Public Policy (MBA); Competition and Competition Policy (MBA); Regulation and Deregulation in the American Economy (MBA), Industrial Organization and Public Policy (Ph.D.), The Economics of Antitrust and Regulation (Ph.D.)

PUBLICATIONS:

A. JOURNAL ARTICLES

"Targeted and Untargeted Subsidy Schemes: Evidence from Post-Divestiture Efforts to Promote Universal Telephone Service," (with Ross Eriksson and David L. Kaserman), Journal of Law and Economics, forthcoming.

"Regulatory Policies Toward Local Exchange Companies Under Emerging Competition: Guardrails or Speedbumps on the Information Highway," (with David L. Kaserman), Information Economics and Policy, forthcoming.

"Open Entry and Local Telephone Rates: The Economics of IntraLATA Toll Competition," (with David L. Kaserman, Larry R. Blank, and Simran Kahai), Review of Industrial Organization, forthcoming.

"Dominant Firm Pricing with Competitive Entry and Regulation: The Case of IntraLATA Toll," (with Larry Blank and David L. Kaserman), Journal of Regulatory Economics, Vol. 14, July 1998, pp. 35-54.

"The Role of Resale Entry in Promoting Local Exchange Competition," (with David L. Kaserman) Telecommunications Policy, Vol. 22, No. 4/5, 1998.

"Telecommunications Policy and the Persistence of Local Exchange Monopoly," (with David L. Kaserman), Business Economics, Vol. 33, April 1998, pp. 14-19.

"An Efficient Avoided Cost Pricing Rule for Resale of Local Exchange Telephone Service," (with David L. Kaserman) Journal of Regulatory Economics, Volume 11, January 1997, pp. 91-107.

"A Dynamic Model of Advertising by the Regulated Firm," (with Francois Melese and David L. Kaserman) Journal of Economics (Zeitschrift für Nationalökonomie), Volume 64, 1996, pp. 85-106.

"Is the 'Dominant Firm' Dominant? An Empirical Analysis of AT&T's Market Power," (with Simran Kahai and David L. Kaserman), Journal of Law and Economics, Volume 39, October 1996, pp. 499-517.

"Competition and Asymmetric Regulation in Long Distance Telecommunications: An Assessment of the Evidence," (with David L. Kaserman) CommLaw Conspectus: Journal of Communications Law and Policy, Volume 4, Winter 1996, pp. 1-26.

"Deregulation and Predation in Long-Distance Telecommunications: An Empirical Test," (with Simran Kahai and David L. Kaserman), Antitrust Bulletin, Vol. 40, Fall 1995, pp. 645-666.

"Cross-Subsidies in Telecommunications: Roadblocks on the Road to More Intelligent Telephone Pricing" (with David L. Kaserman), Yale Journal on Regulation, Volume 11, Winter 1994, pp. 120-147.

Reprinted in Public Utilities Law Anthology, Allison P. Zabriskie, editor, Vol. 17, Part 2 (July-December, 1994), pp. 899-929.

"Demand and Pricing of Telephone Services: Evidence and Welfare Implications" (with Carlos Martins-Filho), RAND Journal of Economics, Volume 24, Autumn 1993, pp. 399-417.

"Two Views of Applied Welfare Analysis: The Case of Local Telephone Service Pricing -- A Comment and Extension" (with David L. Kaserman and David M. Mandy), Southern Economic Journal, Volume 59, April 1993, pp. 822-827.

"The Political Economy of Deregulation: The Case of Intrastate Long Distance" (with David L. Kaserman and Patricia L. Pacey), Journal of Regulatory Economics, Volume 5, March 1993, pp. 49-64.

Reprinted in The Foundations of Regulatory Economics, Robert E. Ekelund, Jr. (Ed.), Edward Elgar Publishing, Northampton, MA, forthcoming.

"Demand, Pricing and Regulation: Evidence from the Cable TV Industry" (with Yasuji Otsuka), RAND Journal of Economics, Volume 22, Number 3, Autumn 1991, pp. 396-410.

"The Measurement of Vertical Economies and the Efficient Structure of the Electric Utility Industry" (with David L. Kaserman), Journal of Industrial Economics, Volume 39, Number 5, September 1991, pp. 483-502.

"Regulation, Market Structure and Hospital Costs: Reply and Extension" (with Deborah A. McFarland), Southern Economic Journal, Volume 58, Number 2, October 1991, pp. 535-538.

"Firm Size, Employment Risk and Wages: Further Insights on a Persistent Puzzle" (with Matthew N. Murray), Applied Economics, Volume 23, Number 8, August 1991, pp. 1351-1360.

"Competition for 800 Service: An Economic Evaluation" (with David L. Kaserman), Telecommunications Policy, October 1991, pp. 395-408.

"Regulation, Advertising and Economic Welfare" (with David L. Kaserman), Journal of Business, Volume 64, Number 2, April 1991, pp. 255-267.

Reprinted in The Foundations of Regulatory Economics, Robert E. Ekelund, Jr., (Ed.), Edward Elgar Publishing, Northampton, MA, forthcoming.

"Cross-Subsidization in Telecommunications: Beyond the Universal Service Fairy Tale" (with David L. Kaserman and Joseph E. Flynn), Journal of Regulatory Economics, Volume 2, Number 3, September 1990, pp. 231-250.

"Barriers to Trade and the Import Vulnerability of U.S. Manufacturing Industries" (with Don P. Clark and David L. Kaserman), Journal of Industrial Economics, Volume 38, Number 4, June 1990, pp. 433-448.

"Firm Entry and Exit: Causality Tests and Economic Base Linkages" (with Joseph E. Flynn), Journal of Regional Science, Volume 29, Number 4, November 1989, pp. 645-662.

"Regulation, Market Structure and Hospital Costs" (with Deborah A. McFarland), Southern Economic Journal, Volume 55, Number 3, January 1989, pp. 559-569.

"Long Distance Telecommunications Policy: Rationality on Hold" (with David L. Kaserman), Public Utilities Fortnightly, Volume 122, Number 13, December 22, 1988, pp. 18-27.

"The Effects of Regulation on R&D: Theory and Evidence" (with Joseph E. Flynn), Journal of Business, Volume 61, Number 3, July 1988, pp. 321-336.

"The Effectiveness of Mandatory Fuel Efficiency Standards in Reducing the Demand for Gasoline" (with John E. Mathis), Applied Economics, Volume 20, Number 2, February 1988, pp. 211-220.

"Market Based Regulation of a Quasi-Monopolist: A Policy Proposal for Telecommunications" (with David L. Kaserman), Policy Studies Journal, Volume 15, Number 3, March 1987, pp. 395-414.

"The Ghosts of Deregulated Telecommunications: An Essay by Exorcists" (with David L. Kaserman), Journal of Policy Analysis and Management, Volume 6, Number 1, Fall 1986, pp. 84-92.

"Economies of Scale and Scope in the Electric-Gas Utilities: Further Evidence and Reply," Southern Economic Journal, Volume 52, Number 4, April 1986, pp. 1175-1178.

"Advertising and the Residential Demand for Electricity" (with David L. Kaserman), Journal of Business, Volume 58, Number 4, October 1985, pp. 399-408.

"Multiproduct Monopoly, Regulation and Firm Costs," Southern Economic Journal, Volume 51, Number 1, July 1984, pp. 208-218.

"The Technological Determinants of the U.S. Energy Industry Structure," The Review of Economics and Statistics, Volume 66, February 1984, pp. 51-58.

B. BOOKS, MONOGRAPHS, AND OTHER PUBLICATIONS

"Monopoly Leveraging, Path Dependency, and the Case for a Competition Threshold for RBOC Reentry into InterLATA Toll," (with T.R. Beard and David L. Kaserman), in Regulation Under Increasing Competition, Michael A. Crew, Editor, Kluwer Academic Publishers, forthcoming.

"The Quest for Universal Service: The Misfortunes of a Misshapen Policy," (with David L. Kaserman) in Telecommunications Policy: Have Regulators Dialed the Wrong Number?, Donald L. Alexander, Editor, Praeger Publishing Group, Westport, CT, 1997, pp. 131-144.

Government and Business: The Economics of Antitrust and Regulation (with David L. Kaserman), The Dryden Press, Harcourt Brace College Publishers, 1995.

"Long-Distance Telecommunications: Expectations and Realizations in the Post-Divestiture Period" (with David L. Kaserman), in Incentive Regulation for Public Utilities, Michael A. Crew, Editor, (Boston, MA.: Kluwer Academic Publications), 1994.

Monopoly Leveraging Theory: Implications for Post-Divestiture Telecommunications Policy (with David L. Kaserman), Center for Business and Economic Research: The University of Tennessee, April 1993.

State-Level Telecommunications Policy in the Post-Divestiture Era: An Economic Perspective (with William F. Fox), Center for Business and Economic Research, The University of Tennessee, March 1991.

A review of After Divestiture: The Political Economy of State Telecommunications Regulation, by Paul E. Teske. Albany: State University of New York Press, 1990. Publius, Winter 1991, pp. 164-166.

Deregulation and Market Power Criteria: An Evaluation of State Level Telecommunications Policy" (with David L. Kaserman) in Telecommunications Deregulation: Market Power and Cost Allocation Issues, J. Allison and D. Thomas (eds.), Quorum Books, 1990.

The Economics of Local Telephone Pricing Options (with J. E. Flynn), Center for Business and Economic Research, The University of Tennessee, October 1988.

Firm Entry and Exit: Economic Linkages in Tennessee (with J. E. Flynn), Center for Business and Economic Research, The University of Tennessee, Knoxville, July 1988.

"The Economics of Regulation: Theory and Policy in the Post-Divestiture Telecommunications Industry" (with David L. Kaserman) in Public Policy Toward Corporations, Arnold Heggestad, editor, University of Florida Presses, 1988.

"Entries and Exits of Firms in the Tennessee Economy: Foundations for Research," Survey of Business, The University of Tennessee, Volume 23, Number 1, Summer 1987, pp. 21-23.

"The Relationship of Manufacturing and Nonmanufacturing Firm Entry and Exit in Tennessee" (with Joseph E. Flynn), Survey of Business, The University of Tennessee, Volume 23, Number 2, Fall 1987, pp. 11-16.

A Review of Municipal Ownership in the Electric Utility Industry, by David Schap. New York: Praeger Publishing Company, 1986. Southern Economic Journal, Volume 54, Number 1, July 1987.

Entries and Exits of Firms in the Tennessee Economy (with W. F. Fox, et al.), Center for Business and Economic Research, The University of Tennessee, Knoxville, May 1987. (Condensed report published in Survey of Business, The University of Tennessee, Volume 23, Number 2, Fall 1987, pp. 3-10.

"The U.S. Economic Outlook," Survey of Business, The University of Tennessee, annual contributor, 1986-1994.

An Economic Report to the Governor of the State of Tennessee, Center for Business and Economic Research and the Tennessee State Planning Office, Annual Contributor, 1981-1994.

"An Economic Analysis of a Monitored Retrievable Storage Site for Tennessee" (with W. F. Fox, L. T. Hansen, and K. E. Quindry), Final Report and Appendices, December 17, 1985.

"Directly Served Industries and the Regional Economy" (with Charles Campbell), Contract Completion Report, the Center for Business and Economic Research, The University of Tennessee, October 1984.

"Comments on the Analysis and Methodology in 'Review of the TVA Load Growth/Plant Construction Situation.'" Contract Completion Report to the Tennessee Valley Authority, February 1982.

CONGRESSIONAL AND REGULATORY TESTIMONIES:

U.S. Senate (Energy and Natural Resources Committee, Subcommittee on Water and Power; Commerce, Science and Transportation Committee); Tennessee State Legislature (Senate Finance, Ways and Means Committee; Special Joint Legislative Committee on Business Taxation; and, Senate State and Local Government Committee); Federal Communications Commission (Ex Parte presentation); Pennsylvania Public Utility Commission; Michigan Public Service Commission; Illinois Commerce Commission; West Virginia Public Utility Commission; Wyoming Public Utility Commission; Washington Utilities and Transportation Commission; Utah Public Service Commission; Wisconsin Public Service Commission; California Public Utilities Commission; Florida Public Service Commission; Delaware Public Service Commission; Montana Public Service Commission; Maryland Public Service Commission; Massachusetts Department of Public Utilities; Georgia Public Service Commission; Colorado Public Utilities Commission; North Carolina Public Utilities Commission; Texas Public Utility Commission; Arkansas Public Service Commission; Connecticut Department of Public Utility Control; Kansas State Corporation Commission; and New Jersey Board of Public Utility Commissioners.

SELECTED CONFERENCE PRESENTATIONS:

Rutgers University, Conference on Regulation Under Increasing Competition
Presentation: "Monopoly Leveraging, Path Dependency, And The Case For A Competition Threshold For RBOC Reentry Into InterLATA Toll," May 1, 1998.

American Enterprise Institute for Public Policy Research, Conference on Pricing and Costing in a Competitive Local Telecommunications Network, Washington, D.C.

Presentation: "Regulation and Common Costs: Estimation versus Allocation," November 1997.

University of Minnesota, Annual Meeting of the Minnesota Economics Association, Minneapolis

Presentation: "Policies for the Evolving Telecommunications Industry," September 1996.

University of Florida, Annual Public Utility Research Center Conference, Gainesville, Florida

Presentation: "Universal Service in Competitive Telecommunications Markets," January 1996.

University of Michigan, "Telecommunications Infrastructure and the Information Economy: Interactions Between Public Policy and Corporate Strategy," Ann Arbor, Michigan

Presentation "Regulatory Policies Toward Local Exchange Companies Under Emerging Competition: Guardrails or Speedbumps on the Information Highway" (with David L. Kaserman), March 1995.

Rutgers University "Advanced Workshop in Regulation and Public Utility Economics" (Thirteenth Annual Conference, Newport, Rhode Island)

Presentation: "Dominant Firm Pricing with Competitive Entry and Regulation" (with Larry R. Blank and David L. Kaserman), May 1994.

Twenty-first Annual Telecommunications Policy Research Conference, Solomons, Maryland

Presentation: "Open Entry and Local Telephone Rates: The Economics of IntraLATA Toll Competition," October 1993.

Vanderbilt University (Owen School of Management) Telecommunications Systems Modelling and Analysis Conference

Presentation: "Open Entry and Local Telephone Rates: The Economics of IntraLATA Toll Competition," March 1993.

Twentieth Annual Telecommunications Policy Research Conference, Solomons, Maryland

Presentation: "Demand and Pricing of Telecommunications Services: Evidence and Welfare Implications," September 1992.

Ohio State University (National Regulatory Research Institute) "Telecommunication Demand Conference"

Presentation: "The Economic Welfare Effects of Extended Area Telephone Service," August 1992.

University of Utah "Conference on New Directions for State Telecommunications Regulation"

Presentation: "Competition for Local Exchange Service--Is Nothing Sacred?"
February 1991.

Rutgers University "Advanced Workshop in Regulation and Public Utility Economics" (Ninth

Annual Conference, New Paltz, New York)

Paper presented: "Demand, Pricing and Regulation of Cable TV Services: Evidence From the Pre-Deregulation Period" (with Yasuji Otsuka), June 1990.

University of Kansas "Stakeholders' Symposium on Telecommunications"

Presentation: "The Modern History of Telecommunications Economics and Policy," Semi-annual February 1990-present.

Rutgers University "Advanced Workshop in Regulation and Public Utility Economics" (Eighth Annual Conference, Newport, Rhode Island)

Paper presented: "The Political Economy of Deregulation: The Case of Intrastate Long Distance" (with David L. Kaserman and Patricia Pacey), May 1989.

Southwestern Bell Corporation "Annual Regulatory Conference" (St. Louis, Missouri)

Presentation: "The New Regulatory Age - What Lies Ahead" April 1989.

University of Florida (Public Utility Research Center) Conference on "Beyond Traditional Regulation"

Presentation: "Expectations and Realizations in Post-Divestiture Telecommunications Policy," February 1989.

National Conference of State Legislatures and the U.S. Advisory Commission on Intergovernmental Relations "Conference on Telecommunications Policy" (Washington, D.C.)

Presentation: "Telecommunications Policy -- Past, Present and Future,"
November 1988.

University of Paris (Dauphine IX), Paris, France, EURO-TIMS, "Joint International Conference"

Presentation: "The Quantification of Entrepreneurship: The Determinants of Firm Entry, Exit, and Survival," July 1988.

University of Texas conference on "Current Issues in Telecommunications Regulation"

Papers Presented: "Deregulation and Market Power Criteria: An Evaluation of State Level Telecommunications Policy" (with David L. Kaserman), and "The Role of Cost Allocation Methodologies in the Deregulation of Long Distance Telecommunications," October 1987.

Rutgers University conference on "Interexchange Telecommunications and Regulatory Innovation"

Paper presented: "Long Distance Telecommunications Policy: Rationality on Hold" (with David L. Kaserman), October 1987.

University of Florida symposium on "Public Policy Toward Corporations"

Paper presented: "The Economics of Regulation: Theory and Evidence in the Post-Divestiture Telecommunications Industry" (with David L. Kaserman), March 1986.

CONSULTING:

U.S. Department of Justice, Antitrust Division; U.S. Federal Trade Commission; AT&T; Sprint; MCI Telecommunications; Enron Power Marketing, Inc.; Optus Communications (Australia); Tennessee Valley Authority; Antitrust Division, Office of the Attorney General, State of Tennessee; U.S. Senator Howard Baker, Jr., U.S. Senate Majority Leader; Oak Ridge National Energy Laboratory; Arkansas Consumer Research; Division of Energy Conservation and Rate Advocacy, Office of the Arkansas Attorney General; U.S. Department of Energy

PROFESSIONAL PRESENTATIONS:

"Regulation and Administrative Discretion: Evidence From the Electric Utility Industry" (with Thomas P. Lyon). Presented to the Southern Economic Association Annual Meetings, Atlanta, GA, November 1997.

"Regulation, Vertical Integration and Sabotage." (with T. Randolph Beard and David L. Kaserman)
Presented to the Western Economic Association Annual Meetings, Seattle, Washington, July 1997.

"Regulation and Investment: Evidence from the Electric Utility Industry." (with Thomas Lyon) Presented to the American Economic Association Annual Meetings, New Orleans, January 1997.

"Targeted and Untargeted Subsidy Schemes: Evidence from Post-Divestiture Efforts to Promote Universal Telephone Service." Presented to the Southern Economic Association Annual Meetings, New Orleans, November 1995.

"Dominant Firm Pricing with Competitive Entry and Regulation: The Case of IntraLATA Toll," with Larry Blank and David L. Kaserman. Presented to the Southern Economic Association Annual Meetings, Orlando, Florida, November 1994.

"The Economic Welfare Effects of Extended Area Telephone Service," with Carlos Martins-Filho. Presented to the Western Economic Association Annual Meetings, Seattle, Washington, July 1991.

"Demand, Pricing and Regulation of Cable TV Services: Evidence from the Pre-Deregulation Period," with Yasuji Otsuka. Presented to the Southern Economic Association annual meetings, New Orleans, Louisiana, November 1990.

"Market Contestability: Toward an Operational Index," with David L. Kaserman. Presented to the Western Economic Association annual meetings, Lake Tahoe, Nevada, June 1989.

"The Political Economy of Deregulation: The Case of Intrastate Long Distance," with David L. Kaserman and Patricia Pacey. Presented to the Southern Economic Association annual meetings, San Antonio, Texas, November 1988.

"Barriers to Trade and the Import Vulnerability of U.S. Manufacturing Industries," with Don Clark and David L. Kaserman. Presented to the Southern Economic Association annual meetings, San Antonio, Texas, November 1988.

"Cross-Subsidization in Telecommunications: Economic Theory Versus Regulatory Rhetoric" with David L. Kaserman, Western Economic Association annual meetings, Vancouver, British Columbia, July 1987. Also presented at the Southern Economic Association annual meetings, Washington, D.C., November 1987.

"The Effects of Regulation on R&D: Theory and Evidence," Southern Economic Association annual meetings, New Orleans, Louisiana, November 1986.

"The Measurement of Vertical Economies and the Efficient Structure of the Electric Utility Industry" with David L. Kaserman, American Economic Association annual meetings, San Francisco, California, December 1983.

"Regulation, Advertising and Economic Welfare" (with David L. Kaserman), Southern Economic Association annual meetings, Washington, D.C., November 1983.

"Multiproduct Monopoly, Regulation and Firm Costs," Southern Economic Association meetings, Atlanta, Georgia, November 1982.

"Forecasting Economic Activity in Tennessee with a Quarterly Econometric Model," Southeastern Economic Analysis Conference, Charlotte, North Carolina, September 1982.

"The Technological Determinants of U.S. Energy Industry Structure." Regulatory Workshop, Center for the Study of American Business and the Department of Economics, Washington University, December 1981.

WORK IN PROGRESS:

"Regulation and Common Costs: Estimation versus Allocation," (with Mark L. Burton and David L. Kaserman), July 1998.

"Regulation, Vertical Integration and Sabotage," (with T.R. Beard and D.L. Kaserman), September 1998.

"Administrative Discretion and Investment Behavior: Evidence from the U.S. Electric Utility Industry," (with Thomas P. Lyon), July 1997.

"Modeling Entry and Barriers to Entry: A Test of Alternative Specifications," (with Mark L. Burton and David L. Kaserman), revised, August 1995.

"Efficient Industry Structure and the Scope of Banking-Nonbanking Activities" (with Atul Saxena and Harold Black), January 1993.

"An Asymptotically Efficient Estimator for Point-to-Point Demand Models with Adjacent Cross-Sectional Correlation" (with Carlos Martins-Filho), August 1993.

EDITORIAL REVIEWER:

National Science Foundation, The MIT Press, Federal Trade Commission, The Economic Journal, Journal of Business, RAND Journal of Economics, Journal of Regulatory Economics, Review of Economics and Statistics, Economic Inquiry, Journal of Industrial Economics, Journal of Economics & Management Strategy, Review of Industrial Organization, Scandinavian Journal of Economics, Eastern Economic Journal, Southern Economic Journal, Contemporary Economic Policy, Industrial Relations, Growth and Change, Review of Regional Studies, Journal of Economics and Business, Quarterly Review of Economics and Business, Journal of Policy Analysis and Management, Quarterly Journal of Business and Economics, Regional Science and Urban Economics, Financial Review, Journal of Money, Credit, and Banking, Social Science Quarterly, Telecommunications Systems, Public Finance Quarterly

PROFESSIONAL MEMBERSHIPS AND COMMITTEES:

American Economic Association

Western Economic Association

Southern Economic Association

American Law and Economics Association

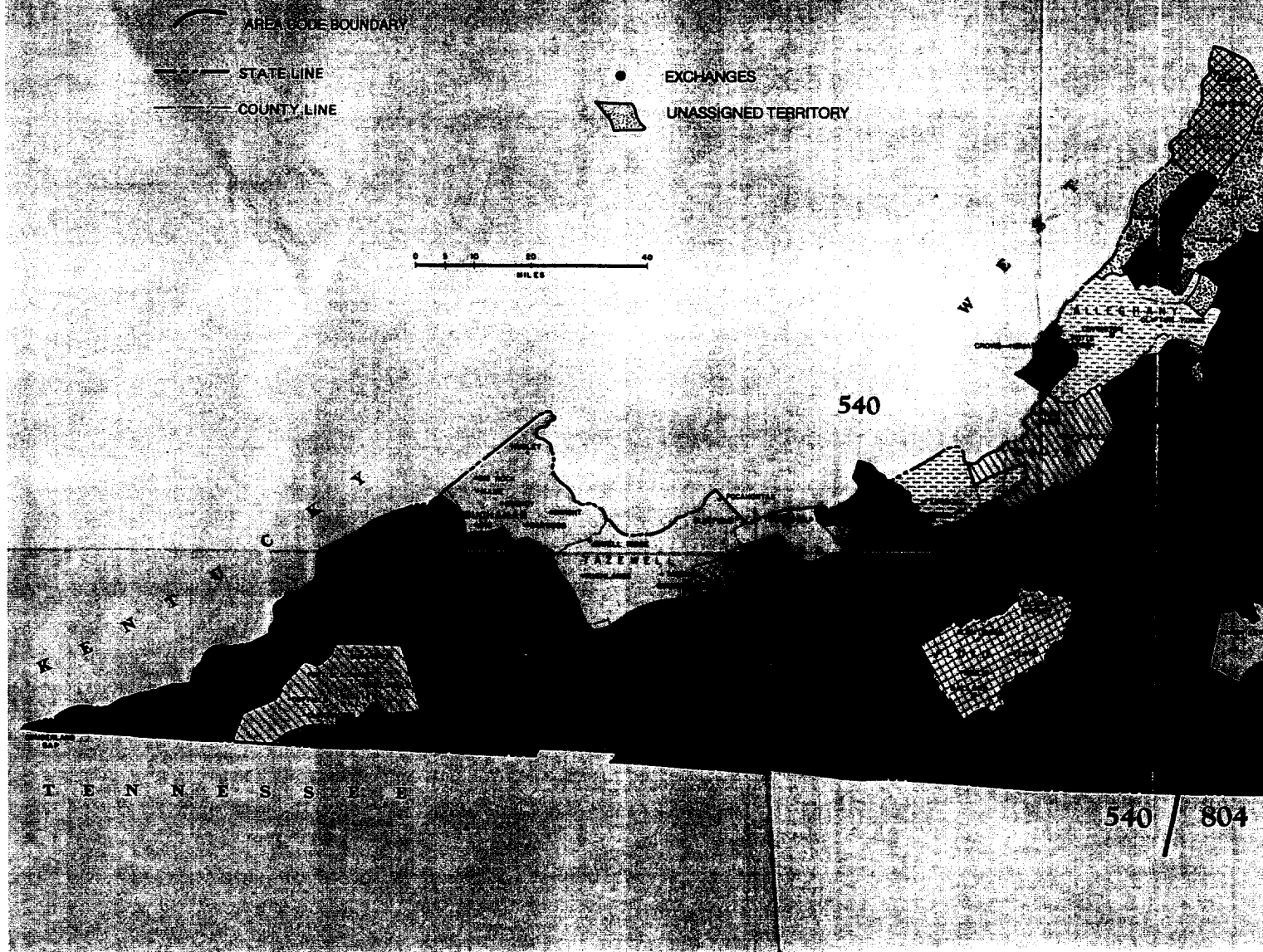
National Regulatory Research Institute (Ohio State University), Research Advisory Committee, (1993-1997)

EXHIBIT 3

VIRGINIA EXCHANGE CARRIERS

BASED ON ASSIGNED-UTILITY FACILITIES ACT

Revised November, 1995



Legend:

- [Pattern] NEW CASTLE TELEPHONE COMPANY
- [Pattern] NEW HOPE TELEPHONE COMPANY
- [Pattern] NORTH RIVER TELEPHONE COOPERATIVE
- [Pattern] PEMBROKE TELEPHONE COOPERATIVE
- [Pattern] PEOPLES MUTUAL TELEPHONE COMPANY, INC.
- [Pattern] ROANOKE & POTOMAC TELEPHONE COMPANY
- [Pattern] SCOTT COUNTY TELEPHONE COOPERATIVE, INC.
- [Pattern] SHENANDOAH TELEPHONE COMPANY
- [Pattern] SPRINT/CENTEL VIRGINIA
- [Pattern] SPRINT/NETTEL TELEPHONE-SOUTHEAST VIRGINIA TELEPHONE COMPANY

- [illegible]

N O R T H C A R O L I N A

Issued by:
Rates and Tariffs
Bell Atlantic - Va.